					[	<b>ST</b> DEPARTMENT DIVISION O	OF NA					AMEN	FC NDED REPC	RM 3 ORT		
		APP	LICATION I	OR	PERM:	IT TO DRILL	-				1. WELL NAME and		ER 2-30K4BS			
2. TYPE C		RILL NEW WELL ((	neente	R P&	A WELL	. DEEPE	N WELL	3. FIELD OR WILDCAT NATURAL BUTTES								
4. TYPE C		Gas				nane Well: NO		5. UNIT OF COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES						NAME		
6. NAME	OF OPERATOR	<b>t</b>									7. OPERATOR PHO	NE				
8. ADDRE	KERR-MCGEE OIL & GAS ONSHORE, L.P.  B. ADDRESS OF OPERATOR  P.O. Box 173779, Denver, CO, 80217										9. OPERATOR E-MA	IL	29-6515			
	RAL LEASE N	JMBER	7.O. Box 1/3/	/9, De		CO, 80217 INERAL OWNE	RSHIP	•			12. SURFACE OWN		@anadarko	.com		
	L, INDIAN, OF	UTU463	12 - 161)		FEDE	RAL D IND	IAN 🛑	) STATE (	) FI	EE 🔵		DIAN (	•		FEE ()	
		OWNER (if box :									14. SURFACE OWN		•			
15. ADDR	LESS OF SURF	ACE OWNER (if b	ox 12 = 'tee'	)							16. SURFACE OWN	EK E-MA	AIL (II DO)	( 12 = Te	ee <sup>-</sup> )	
	AN ALLOTTEE 2 = 'INDIAN')	OR TRIBE NAME				ITEND TO COM IPLE FORMATI  (Submit C	ONS	L <b>E PRODUCT</b> gling Applicati		о <b>м</b> о 🔵	VERTICAL DIF	RECTION	IAL 📵	HORIZON	ITAL 🛑	
20. LOC	ATION OF WE	LL	1	FO	OTAGE	s	QT	r-QTR	SE	CTION	TOWNSHIP	R	ANGE	ME	RIDIAN	
LOCATIO	ON AT SURFAC	CE	21	.06 FS	SL 817	7 FWL	N	IWSW		30	9.0 S	2	2.0 E		S	
Top of U	ppermost Pro	ducing Zone	18	72 FS	L 1978	8 FWL	١	NESW		30	9.0 S	2	2.0 E		S	
At Total	Depth		18	72 FS	L 1978	8 FWL	Ŋ	NESW		30	9.0 S	2	2.0 E		S	
21. COUN	ITY	UINTAH			22. DISTANCE TO NEAREST LEASE LINE (Feet)				23. NUMBER OF ACRES IN DRILLING UNIT 551							
						STANCE TO Nied For Drilling	g or Co		AME PO	OOL	<b>26. PROPOSED DEPTH</b> MD: 9690 TVD: 9503					
27. ELEV	ATION - GROU	JND LEVEL 4971			28. BC	OND NUMBER	WVRO	000291			29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496					
<u> </u>		4371			Н	ole, Casing,			ormati	ion						
String	Hole Size	Casing Size	Length	We	ight	Grade & Th		Max Mu			Cement Sacks Yield Weigh					
SURF	11	8.625	0 - 2530	28	8.0	J-55 LT8	&C	0.2			Type V		180	1.15	15.8	
											Class G		270	1.15	15.8	
PROD	7.875	4.5	0 - 9690	1:	1.6	I-80 LT8	&C	12.	5	Prem	ium Lite High Stre	ngth	310	3.38	11.0	
											50/50 Poz 1310 1.31 14.					
						A	ГТАСН	IMENTS								
	VERIFY T	HE FOLLOWIN	G ARE ATT	ACHI	ED IN	ACCORDAN	CE WI	TH THE UT	AH O	IL AND G	AS CONSERVATI	ON GE	NERAL F	RULES		
<b>✓</b> w	ELL PLAT OR	MAP PREPARED E	SY LICENSED	SUR	VEYOR	OR ENGINEE	R	<b>№</b> сом	PLETE	DRILLING	PLAN					
AF	FIDAVIT OF S	TATUS OF SURFA	CE OWNER A	GREI	EMENT	(IF FEE SURF	ACE)	FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER								
DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)								TOPOGRAPHICAL MAP								
NAME La	ura Abrams			TIT	<b>LE</b> Reg	Julatory Analyst	II			PHONE 7	20 929-6356					
SIGNAT	URE			DA	<b>TE</b> 06/2	21/2011				EMAIL L	aura.Abrams@anadark	co.com				
	iber assign )4751708(			АРІ	PROVA	ıL				Perm	L. C.					

NBU 922-30L PAD

Drilling Program

1 of 7

#### Kerr-McGee Oil & Gas Onshore. L.P.

#### NBU 922-30K4BS

Surface: 2106 FSL / 817 FWL NWSW BHL: 1872 FSL / 1978 FWL NESW

Section 30 T9S R22E

Uintah County, Utah Mineral Lease: UTU 0463

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

### Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1393	
Birds Nest	1724	Water
Mahogany	2081	Water
Wasatch	4664	Gas
Mesaverde	7276	Gas
MVU2	8249	Gas
MVL1	8795	Gas
TVD	9503	
TD	9690	

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

#### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

#### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

#### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

NBU 922-30L PAD Drilling Program 2 of 7

#### 7. <u>Abnormal Conditions</u>:

Maximum anticipated bottom hole pressure calculated at 9503' TVD, approximately equals 6,272 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,978 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

NBU 922-30L PAD Drilling Program
3 of 7

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

NBU 922-30L PAD Drilling Program
4 of 7

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

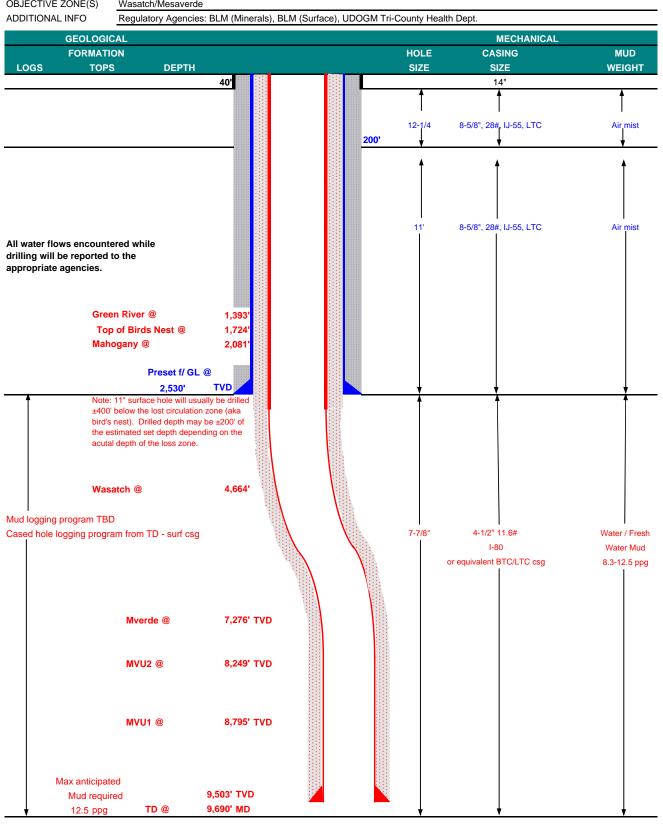
#### 10. Other Information:

Please refer to the attached Drilling Program.



# KERR-McGEE OIL & GAS ONSHORE LP <u>DRILLING PROGRAM</u>

COMPANY NAME KERR-McGEE OIL & GAS ONSHORE LP DATE June 21, 2011 NBU 922-30K4BS WELL NAME 9,503' TVD 9,690' MD TD FINISHED ELEVATION **FIELD** Natural Buttes COUNTY Uintah STATE Utah 4971' SURFACE LOCATION NWSW 2106 FSL 817 FWL Sec 30 T 9S R 22E Latitude: 40.005522 Longitude: -109.487740 **NAD 83** BTM HOLE LOCATION NESW 1872 FSL 1978 FWL Sec 30 T 9S R 22E Latitude: 40.004890 -109.483596 NAD 83 Longitude: OBJECTIVE ZONE(S) Wasatch/Mesaverde





#### **KERR-McGEE OIL & GAS ONSHORE LP**

#### **DRILLING PROGRAM**

CASING PROGRAM	<u>1</u>							DESIGN I	FACTORS	
									LTC	BTC
	SIZE	INTE	ERVAL	WT.	GR.	CPLG.	BURST	COLLA	PSE	TENSION
CONDUCTOR	14"	0	-40'							
							3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to 2,530	28.00	IJ-55	LTC	2.14	1.59	5.61	N/A
							7,780	6,350	279,000	367,000
PRODUCTION	4-1/2"	0	to 9,690	11.60	I-80	LTC/BTC	1.11	1.03	3.07	4.04

**Surface Casing:** 

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	o surface,	option 2 wil	l be utilized	
Option 2 LEAD	2,030'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEAD	4,160'	Premium Lite II +0.25 pps	310	20%	11.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TAIL	5,530'	50/50 Poz/G + 10% salt + 2% gel	1,310	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

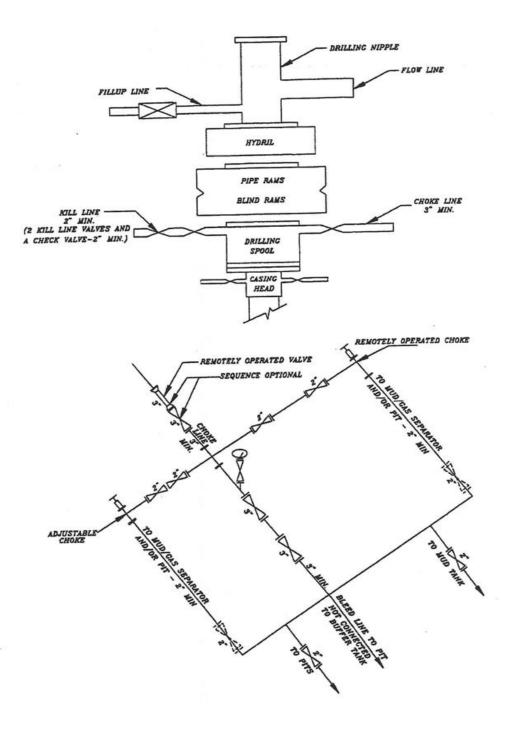
BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

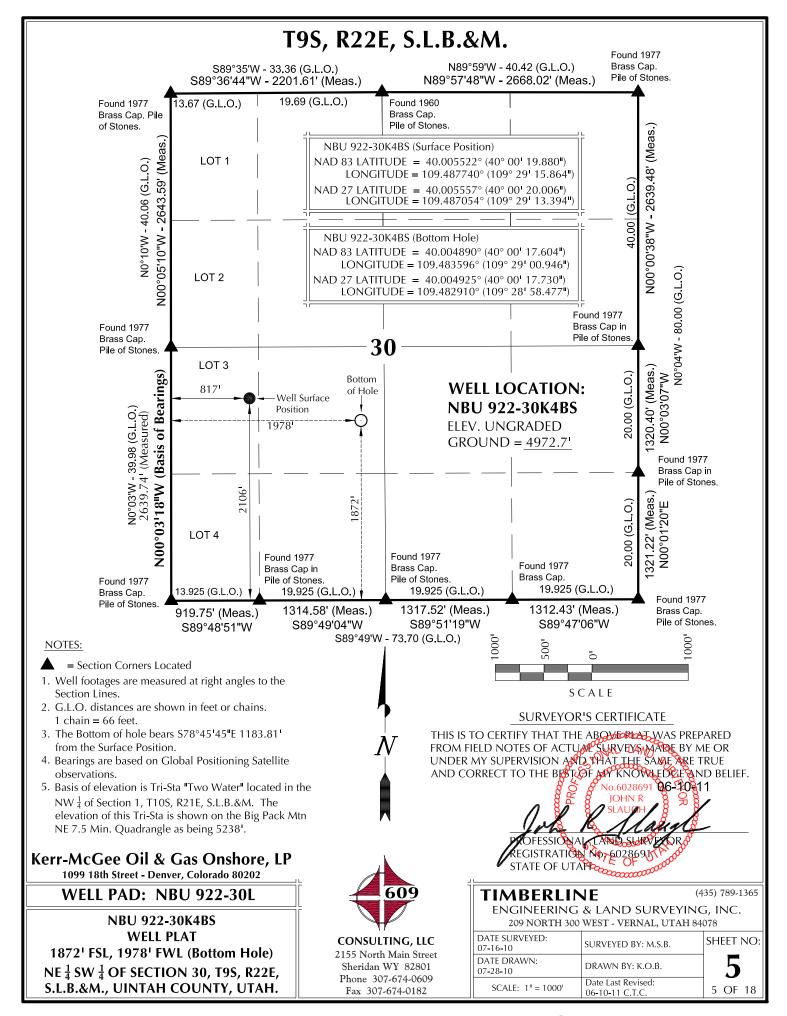
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers	_	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

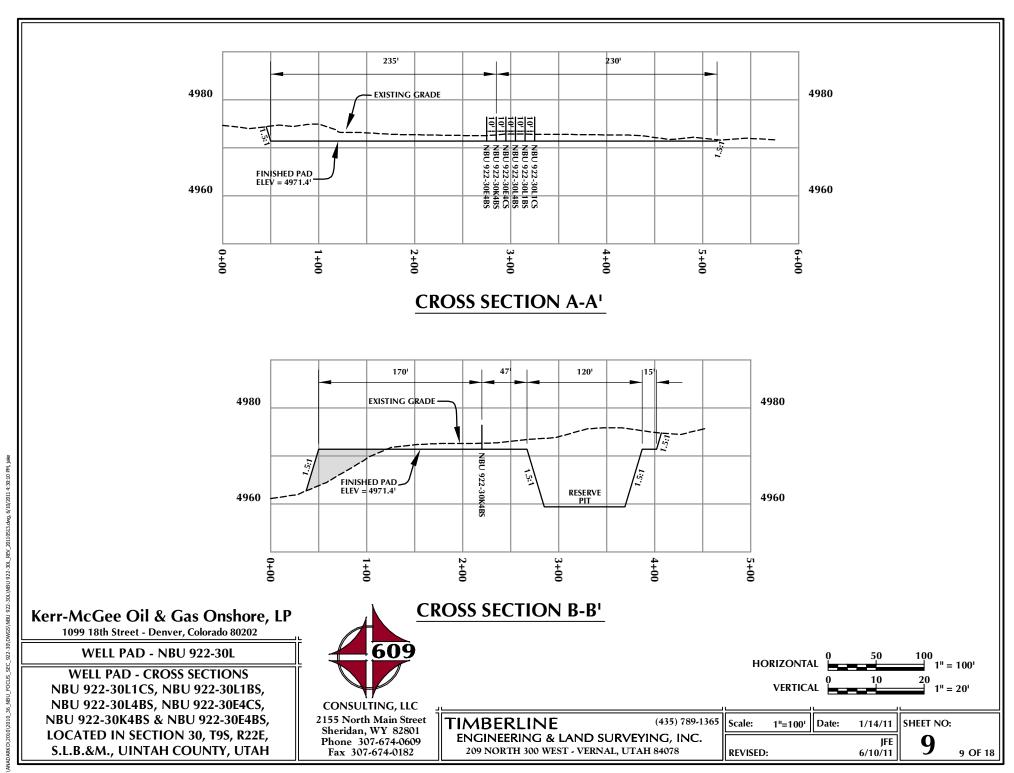
EXHIBIT A NBU 922-30K4BS

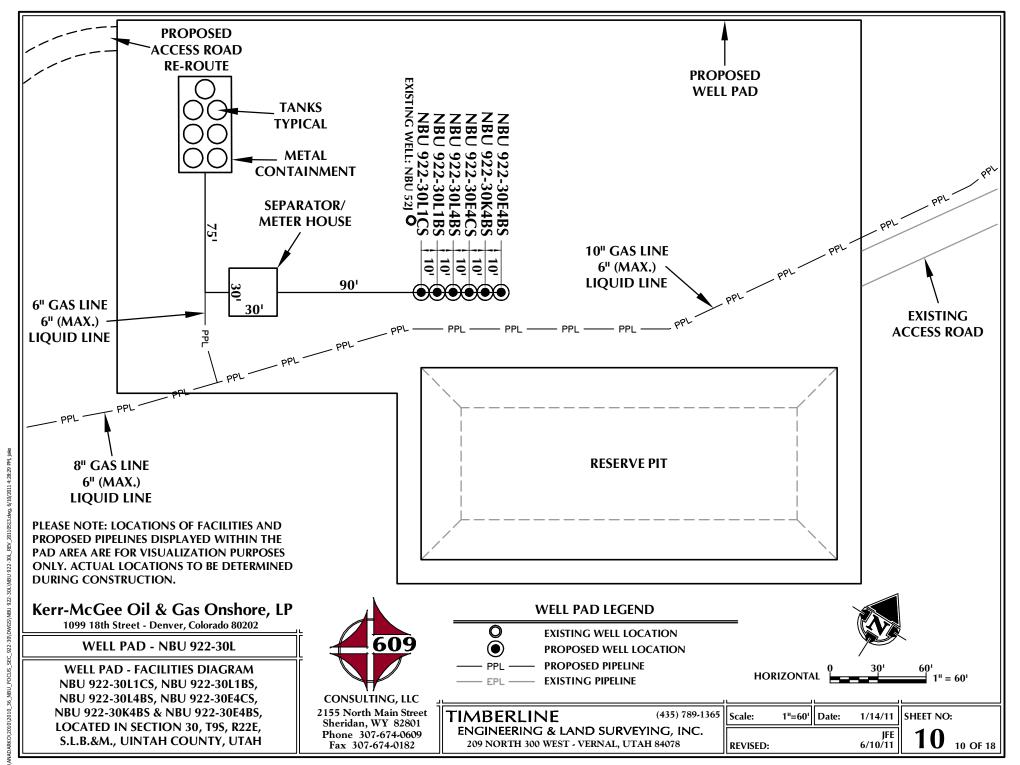


SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



			SURFACE POS				BOTTOM HOLE NAD83 NAD27						
WELL NAME	LATITUDE	LONGIT	UDE LATITU	NAD27	GITUDE	FOOTAGES	LATIT	NAD	83 LONGITUDE	NAD Latitude	LONGITUDE	FOOTAGES	
NBU	40°00'19.670					2085' FSL	40°00'1		109°29'16.801"	40°00'18.597"	109°29'14.331"	1964' FSL	
922-30L1CS	40.005464°	109.48786	1° 40.00549	9° 109.48	7175°	7831 FWL	40.0051	131°	109.488000°	40.005166°	109.487314°	744' FWL	
NBU 922-30L1BS	40°00'19.722 40.005478°	109°29'16 109.48783			'13.721" 7145°	2090' FSL 792' FWL	40°00'2 40.0062		109°29'16.614" 109.487948°	40°00'22.460" 40.006239°	109°29'14.145" 109.487262°	2355' FSL 759' FWL	
NBU	40°00'19.775	" 109°29'16	.083" 40°00'19	.901" 109°29	13.613"	2096' FSL	40°00'1	5.912"	109°29'16.617"	40°00'16.038"	109°29'14.147"	1705' FSL	
922-30L4BS NBU	40.005493° 40°00'19.827	109.48780 " 109°29'15			7115° '13.503"	800' FWL 2101' FSL	40.0044 40°00'2		109.487949° 109°29'16.609"	40.004455° 40°00'26.531"	109.487263° 109°29'14.139"	758' FWL 2519' FNL	
922-30E4CS	40.005507°	109.48777	0° 40.00554	3° 109.48	7084°	809' FWL	40.0073	335°	109.487947°	40.007370°	109.487261°	760' FWL	
NBU 922-30K4BS	40°00'19.880 40.005522°	109°29'15 109.48 <i>774</i>	I			2106' FSL 817' FWL	40°00'1 40.0048		109°29'00.946" 109.483596°	40°00'17.730" 40.004925°	109°28'58.477" 109.482910°	1872' FSL 1978' FWL	
NBU	40°00'19.932		.755" 40°00'20	.058" 109°29		2112' FSL	40°00'2	9.616"	109.463396* 109°29'16.616"	40°00'29.742"	109.462910 109°29'14.147"	2194' FNL	
922-30E4BS NBU 52J	40.005537° 40°00'20.013	109.48771				826' FWL	40.0082	227°	109.487949°	40.008262°	109.487263°	760' FWL	
NBU 32j	40.005559°	109°29'16''' 109.48796				2120' FSL 754' FWL							
			RELAT	IVE COORD	INATES -	From Surface	Position	to Botto	m Hole				
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST		NAME	NORT	H EAST	WELL NAM	IE NORTH	EAST	
NBU 922-30L1CS	-121.4'	-39.1'	NBU 922-30L1BS	264.4'	-32.9	NBU 922-30	L4BS	-390.	9' -41.7'	NBU 922-30E4CS	665.8	-49.4'	
WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST		1	1	1			•	
NBU 922-30K4BS	-230.71	1161.1	NBU 922-30E4BS	980.11	-66.8	·	je Š	<b>A</b>				1	
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						1e) 266.4	) 9 9 0	2.42	1e) 2°		1		
	SCAL	F	/	-	9	[2, eg)	7. L	982.	Hc 22.		<b>L</b>		
	SCAL	L			Š	ŠΙ 'Ι	355	-   -	10				
					Č	9.59   Mary   1	Az=355.76000° 667 61' (To Bott		Bottom Hole =356.10222		W		
					'	557 58 58	$\langle \cdot \rangle$	- o - 125.1	(To Bottom Hole) Az=356.10222°		<b>4 V</b>		
						$C \cap C = C$		. ~~	$\circ$		1		
	_					Z=3 5 B(c 05'	\ \ \	>   ਨੂੰ	(To Az				
						AZ=3 (To B(		24"W 	E Z				
						AZ=352.90036 (To Bottom Hole) N07°05'58"W - 266	A MARCON	4'24"W - 607.3 - 	) 			/	
/						AZ=3 (To Bo) N07°05'		4°14'24"W N03°53	A S				
						AZ=2 (To Be) N07°05'	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	N04°14'24"W 	D. A.				
/			WISTING W	/F11 N.S.		Z  	Will Co	0 N04°14′24″W 03°53	E &				
		-	existing v	VELL: NBI		Z  	10 to 10 t	0 N04°14′24″W N03°53	F. S.				
/			EXISTING V	VELL: NBI		Z  	1000	N04°14'24" N03		AZ=10	01.237500		
/		,	EXISTING V	/ELL: NBI		Z  	10000	N04°14'24" N03			01.23750° E - 1102		
<u>/</u>		-	EXISTING W		U <b>52</b> J @	Z    		N04°14'24" N03				1'	
	OF BEARING:	S IS THE W	est line		U <b>52</b> J @	Z    	THE TABLE	N04°14'24" N03	Jan 92		01.23750° E - 1183.8 Om Hole)	1'	
OF THE	E SW <sup>1</sup> / <sub>4</sub> OF SE	S IS THE W CTION 30,	EST LINE T9S, R22E,		U <b>52J</b> @		THE TABLES	N04°14'24" N03	Jan 92			1'	
OF THE S.L.B.&	E SW <sup>1</sup> 4 OF SE M. WHICH IS	S IS THE W CTION 30, S TAKEN FF	est line T9s, R22e, ROM		U <b>52J</b> @		18U 97	N04°14'24" N03	18U 922-30KA	(To Botte	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW <sup>1</sup> / <sub>4</sub> OF SE	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @		18U 97	N04°14'24" N03	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @	7 Hole) 127-17	18U 97	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @	7 Hole) 127-17	18U 97	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @	7 Hole) 127-17	15. 25. 25. 25. 25. 25. 25. 25. 25. 25. 2	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @	7 Hole) 127-17	18U 97	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @		- 393.15, - 787 184 189 189 189 189 189 189 189 189 189 189	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)		
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite		U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)		
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite	AZZZ SS	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite	AZ 255	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA	E SW $\frac{1}{4}$ of SEM. Which IS AL Position	S IS THE W CTION 30, S TAKEN FF ING SATEL	est line T9s, R22e, ROM Lite	AT 22 SS	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)		
OF THE S.L.B.& GLOBA OBSER'	E SW 14 OF SE 1-M. WHICH IS NL POSITION VATIONS TO	S IS THE W CTION 30, S TAKEN FI ING SATEL D BEAR NOO	EST LINE T9S, R22E, ROM LITE 0°03'18"W.	Bottom of Hole	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	- 393.15, - 787 184 189 189 189 189 189 189 189 189 189 189	100. CC 081 10. 104.14'24"	180 922 30KABS NA 30KAC	(To Botto	om Hole)		
OF THE S.L.B.& GLOBA OBSER'	E SW 14 OF SE 1-M. WHICH IS NL POSITION VATIONS TO	S IS THE W CTION 30, S TAKEN FI ING SATEL D BEAR NOO	EST LINE T9S, R22E, ROM LITE 9°03'18"W.	Bottom of Hole	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	100. CC 081 10. 104.14'24"	BU 972-30KARS ALO	(To Botto	om Hole)	1'	
OF THE S.L.B.& GLOBA OBSER' <b>Kerr-Mc</b> ( 1099 1	E SW 1/4 OF SE M. WHICH IS AL POSITION VATIONS TO  State of the second o	S IS THE W CTION 30, S TAKEN FI ING SATEL D BEAR NOO  & Gas ( enver, Colo	EST LINE T9S, R22E, ROM LITE 0°03'18"W.  Dnshore, I	Bottom of Hole	U <b>52J</b> @	$S17^{\circ}50^{\circ}25^{\circ}M + IOle)$ $A2=197.840.25.77$	1 393.15, C.	SOUNCE TO ONE THE NO4°14'24"  SOUNCE TO ONE TO ONE NO4°14'24"  SOUNCE TO ONE TO ONE NO ONE NO ONE TO	AND SOKARS AT 10 CASE WITH SO SOLUTION	To Botto  (To Botto  (	25 - 1183.8 Om Hole)		
OF THE S.L.B.& GLOBA OBSER' <b>Kerr-Mc</b> ( 1099 1	E SW 1/4 OF SE 1-M. WHICH IS NL POSITION VATIONS TO	S IS THE W CTION 30, S TAKEN FI ING SATEL D BEAR NOO  & Gas ( enver, Colo	EST LINE T9S, R22E, ROM LITE 0°03'18"W.  Dnshore, I	Bottom of Hole	U <b>52J</b> @	17°50'25"W Hole) AZ=197.8402.51" W	1 393.15, C.	1	MU 972 30K AS PA 10 CASE WHAN SO STOLL AS PART OF THE PART OF	(To Botto)  (To Bo	25. ————————————————————————————————————	35) 789-1365	
OF THE S.L.B.& GLOBA OBSER' 1099 1	E SW 1/4 OF SE M. WHICH IS AL POSITION VATIONS TO  State of the second o	S IS THE W CTION 30, S TAKEN FI ING SATEL D BEAR NOO  WAR GAS ( CONTROL OF THE COLO  WANTED  WAS THE WAR  WAS	EST LINE T9S, R22E, ROM LITE 0°03'18"W.  Dnshore, I rado 80202 22-30L	Bottom of Hole	U <b>52J</b> @	$S17^{\circ}50^{\circ}25^{\circ}M + IOle)$ $A2=197.840.25.77$	1 393.15, C.	1	MBERLING THE RESIDENCE WITH THE PROPERTY OF TH	(To Botto)	25 - 1183.8 Om Hole)	335) 789-1365 G, INC.	
Kerr-Mc( 1099 1:  WELL WELLS - N	Gee Oil a 8th Street - D LL PAD - L PAD INT NBU 922-30	& Gas (enver, Colon NBU 9	Dnshore, I rado 80202 22-30L	Bottom of Hole	U 52J @	S17°50′25″M Hole)  AZ=197.84032.51′ AZ	S06°05'16"W - 393.15' - 100 Nat 15' - 100 Na	THE THE NOA'14'24" AND THE THE NOA'14'24" AND THE NOA'14' AND THE NOA' AND THE NOA'14' AND THE NOA'14' AND THE NOA' AND THE NOA' AND THE NOA' AND THE NO	MBERL NGINEERIN 209 NORTH SURVEYED:	(To Botto)	Om Hole)  (4 SURVEYING E - 1183.8  (4 SURVEYING ENAL, UTAH 844	35) 789-1365 5, INC.	
Kerr-Mc( 1099 1:  WELL WELLS - NBU	Gee Oil a 8th Street - D L PAD - L PAD INT NBU 922-30 922-3014BS	& Gas (enver, Color NBU 9 ERFEREN L1CS, NBU 922	Dnshore, I rado 80202 22-30L ICE PLAT J 922-30L1BS, 2-30E4CS,	Bottom of Hole	U 52J @	$S17^{\circ}50^{\circ}25^{\circ}M + IOle)$ $A2=197.840.25.77$	(To Bottom Hole)	MA 21 10 12 10 10 10 10 10 10 10 10 10 10 10 10 10	MBERL NGINEERIN 209 NORTH: SURVEYED: -10	(To Botto)	Om Hole)  (4 SURVEYING E - 1183.8  (4 SURVEYING ENAL, UTAH 844	335) 789-1365 G, INC.	
Kerr-Mc( 1099 1  WELL WELLS - N NBU	Gee Oil a 8th Street - D L PAD - L PAD INT NBU 922-30 922-3014BS 922-30K4BS	& Gas ( enver, Colo NBU 9 ERFEREN L1CS, NBU 922 & NBU 922	Dnshore, I rado 80202 22-30L CE PLAT J 922-30E4CS, t2-30E4CS,	Bottom of Hole	CONSU 2155 Nor Sheridan	ST2°50'8'' Hole AZ=197.840.25''. AZ=197.840.25'.75'.	S06°05'16"W - 393.15, — CONTROL TO BOTTOM Hole)	MA 21 10 12 10 10 10 10 10 10 10 10 10 10 10 10 10	MBERL NGINEERIN 209 NORTH SURVEYED: -10 DRAWN:	(To Botto)	SURVEYING E - 1183.8  Om Hole)  (4  SURVEYING ENAL, UTAH 846 BY: M.S.B.	35) 789-1365 5, INC.	
Kerr-Mc( 1099 1  WELL WELLS - N NBU LOCA	Gee Oil a 8th Street - D L PAD - L PAD INT NBU 922-30 922-3014BS	& Gas (enver, Colo NBU 9 ERFERENLICS, NBU 92 & NBU 92 TION 30,	Dnshore, I rado 80202 22-30L ICE PLAT J 922-30L4CS, t2-30E4CS, t2-30E4CS, t2-30E4CS, t2-30E4CS,	Bottom of Hole	CONSU 2155 Nor Sheridar Phone 3	S17 $^{\circ}$ 50 $^{\circ}$ 50 $^{\circ}$ 7 $^{\circ}$ 7 $^{\circ}$ 80 $^{\circ}$ 90 $^{\circ$	S06°05'16"W - 393.15, — CONTROL TO BOTTOM Hole)	180 07-190 04-14'24' AT E DATE 07-190 DATE	MBERL NGINEERIN 209 NORTH SURVEYED: -10 DRAWN:	To Botto  To Bot	SURVEYING E - 1183.8 Om Hole)  (4 SURVEYING ENAL, UTAH 840 BY: M.S.B. K.O.B. vised:	35) 789-1365 G, INC.	





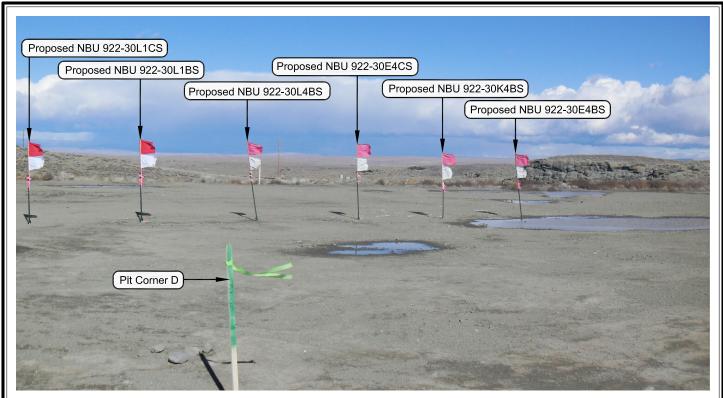


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

**CAMERA ANGLE: NORTHERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHERLY** 

#### Kerr-McGee Oil & Gas Onshore, LP 1099 18th Street - Denver, Colorado 80202

#### WELL PAD - NBU 922-30L

LOCATION PHOTOS
NBU 922-30L1CS, NBU 922-30L1BS,
NBU 922-30L4BS, NBU 922-30E4CS,
NBU 922-30K4BS & NBU 922-30E4BS
LOCATED IN SECTION 30, T9S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH.



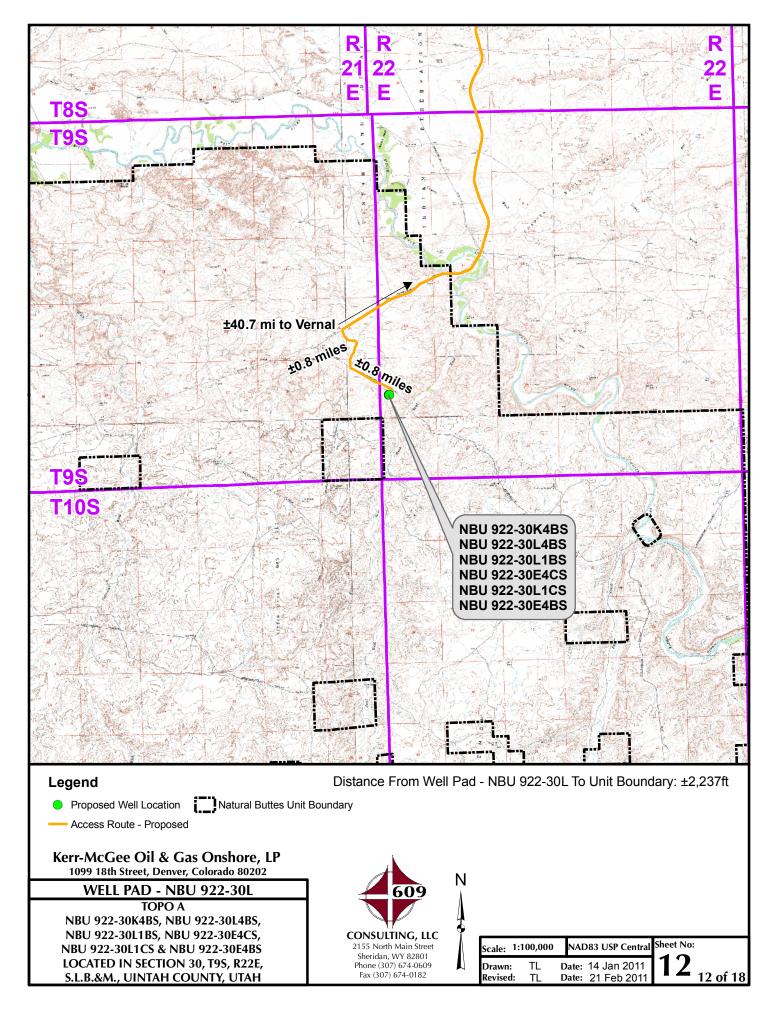
#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

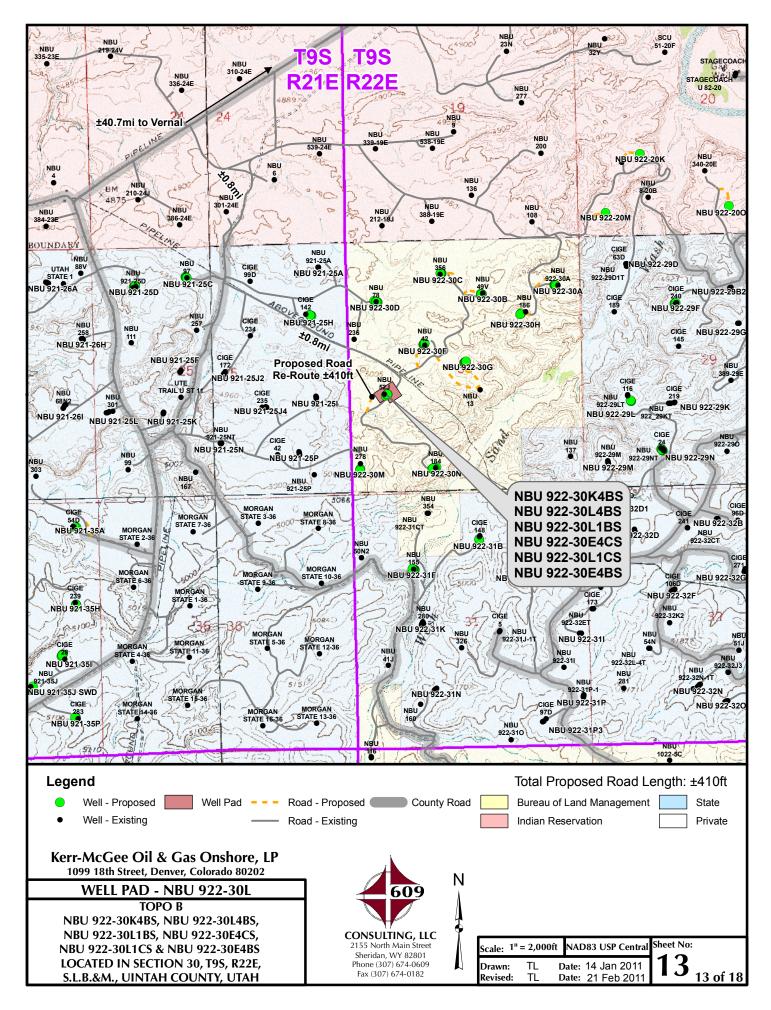
#### TIMBERLINE

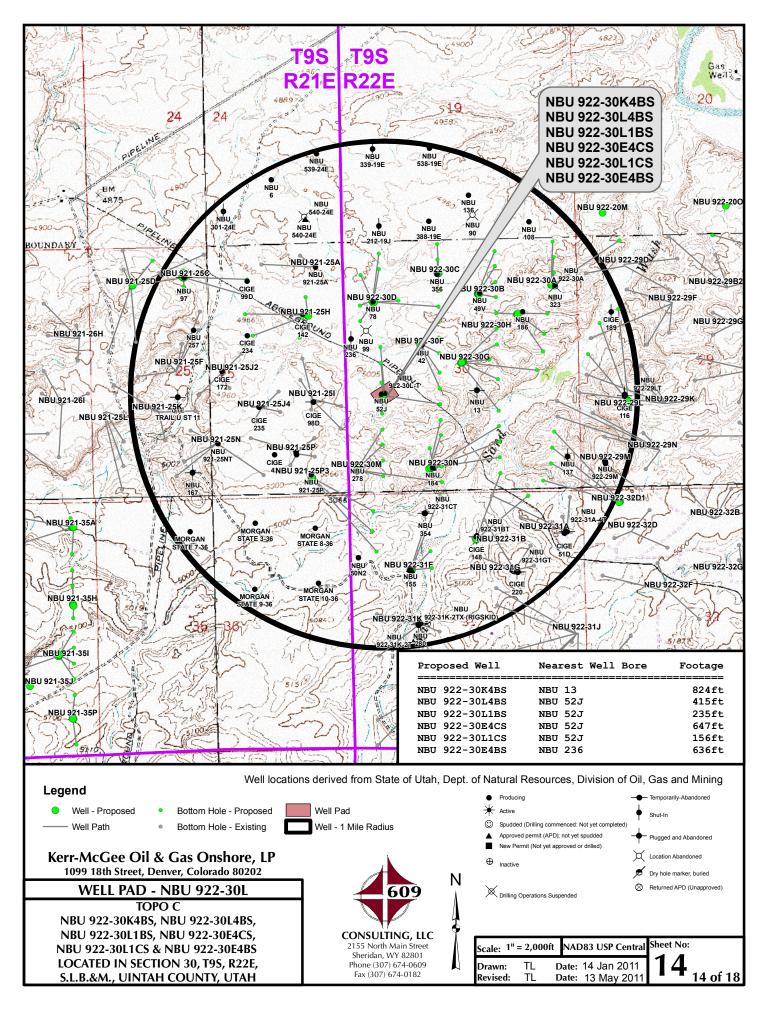
(435) 789-1365

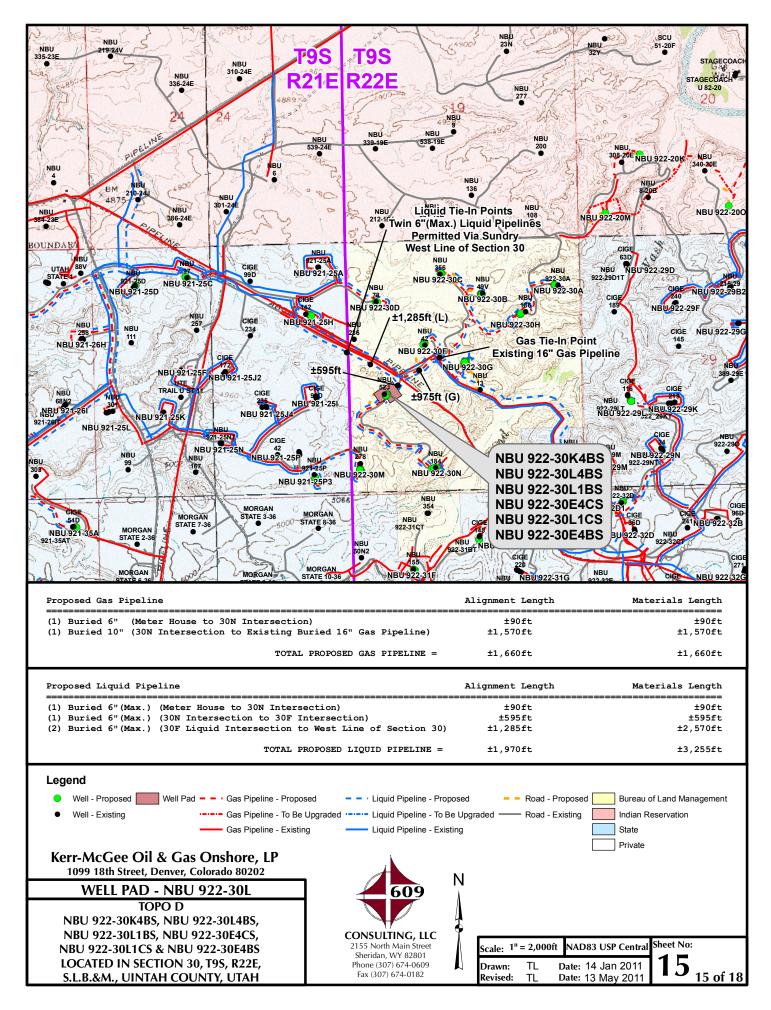
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

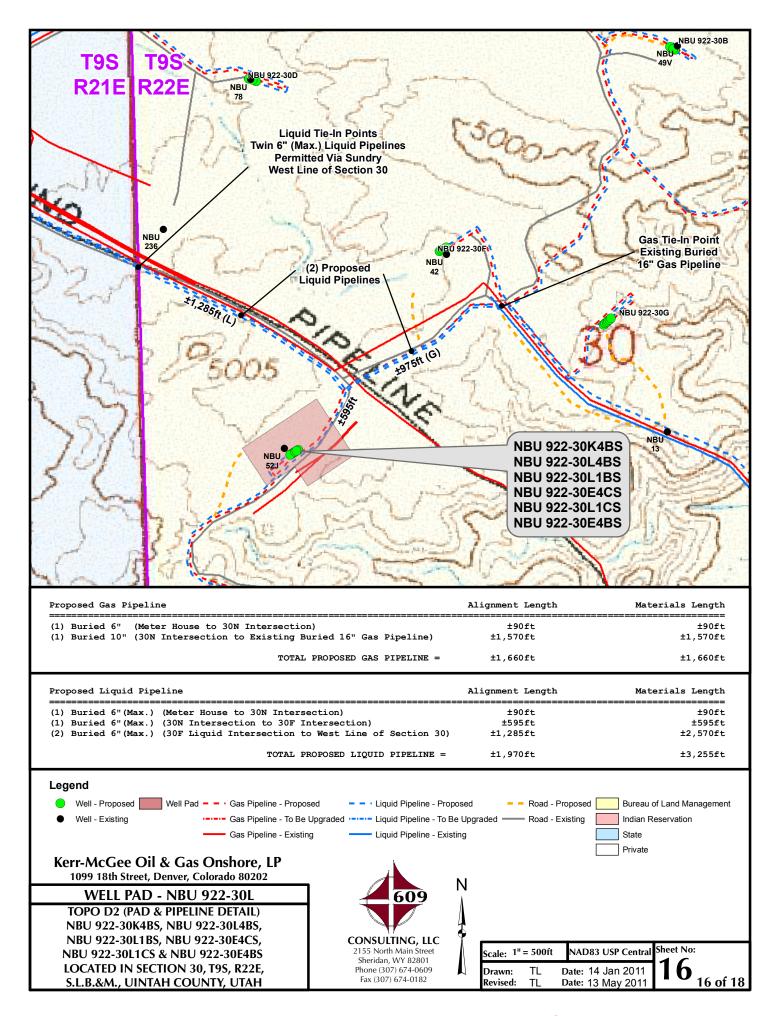
	20711011111300	VILOI - VERGINE, OTHER OF	010
ı	DATE PHOTOS TAKEN: 07-16-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO:
	DATE DRAWN: 07-28-10	DRAWN BY: K.O.B.	11
	Date Last Revised: 06-10-1	1 C.T.C.	11 OF 18

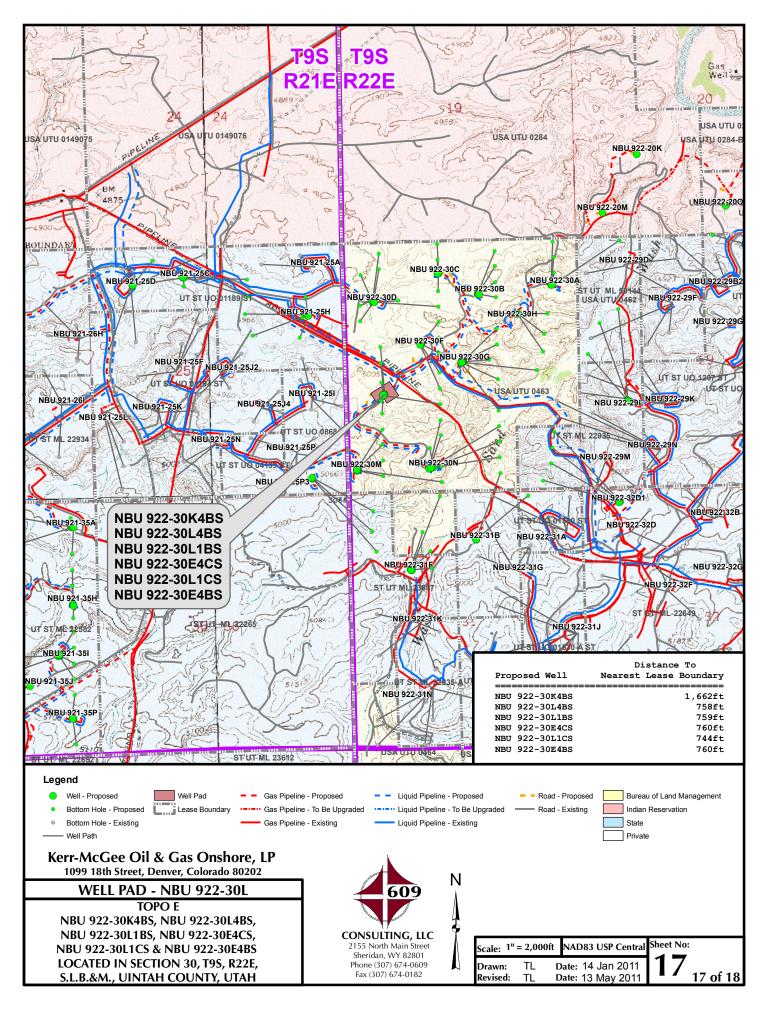










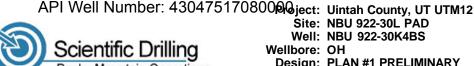


Kerr-McGee Oil & Gas Onshore, LP WELL PAD – NBU 922-30L WELLS – NBU 922-30K4BS, NBU 922-30L4BS, NBU 922-30L1BS, NBU 922-30E4CS, NBU 922-30L1CS & NBU 922-30E4BS Section 30, T9S, R22E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.2 miles to a service road to the southeast. Exit left and proceed in a southeasterly, then southerly direction along the service road approximately 0.8 miles to a second service road to the southeast. Exit left and proceed in a southeasterly direction along the second service road approximately 0.8 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 42.3 miles in a southerly direction.

**SHEET 18 OF 18** 



Site: NBU 922-30L PAD Well: NBU 922-30K4BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY



Rocky Mountain Operations WELL DETAILS: NBU 922-30K4BS GL 4971' & KB 9' @ 4980.00ft (ASSUMED) +N/-S +E/-W **Northing** Latittude Longitude Easting 0.00 0.00 14531664.44 2064104.06 40° 0' 20.005 N 109° 29' 13.394 W **DESIGN TARGET DETAILS** TVD +N/-S +E/-W Northing Latitude Longitude Easting Shape Name 109° 28' 58.476 WCircle (Radius: 25.00 **PBHL** 9503.00 -230.16 1160.72 14531454.03 2065268.52 40° 0' 17.730 N - plan hits target center FORMATION TOP DETAILS **CASING DETAILS TVDPath MDPath Formation** TVD MD Name Size 0.00 1393.00 1420.45 **GREEN RIVER** 2531.00 2631.48 8 5/8" 8.625 4664.00 4850.62 **WASATCH** 0.00 7276.00 7462.62 **MESAVERDE** 0.00 **SECTION DETAILS VSect** MD Inc Azi TVD +N/-S +E/-W **Dleg TFace** 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 300.00 0.00 0.00 300.00 0.00 0.00 0.00 0.00 0.00 1300.00 20.00 101.22 1279.82 -33.60 2.00 101.22 169.47 172.77 3677.35 20.00 101.22 3513.79 -191.75 967.04 0.00 0.00 985.87 4820.20 0.00 0.00 4633.58 -230.16 1160.72 1.75 180.00 1183.32 9689.62 0.00 0.00 9503.00 -230.16 1160.72 0.00 1183.32 0.00 PROJECT DETAILS: Uintah County, UT UTM12

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US

Ellipsoid: Clarke 1866

Zone: Zone 12N (114 W to 108 W)

Location: SECTION 30 T9S R22E

System Datum: Mean Sea Level

API Well Number: 43047517080000 ject: Uintah County, UT UTM12 Scientific Drilling Rocky Mountain Operations

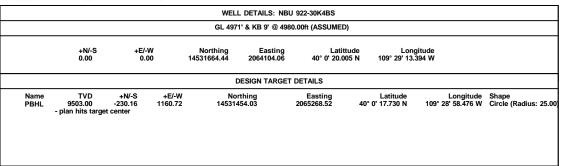
Site: NBU 922-30L PAD

Well: NBU 922-30K4BS

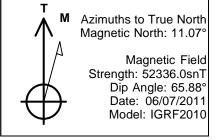
Wellbore: OH

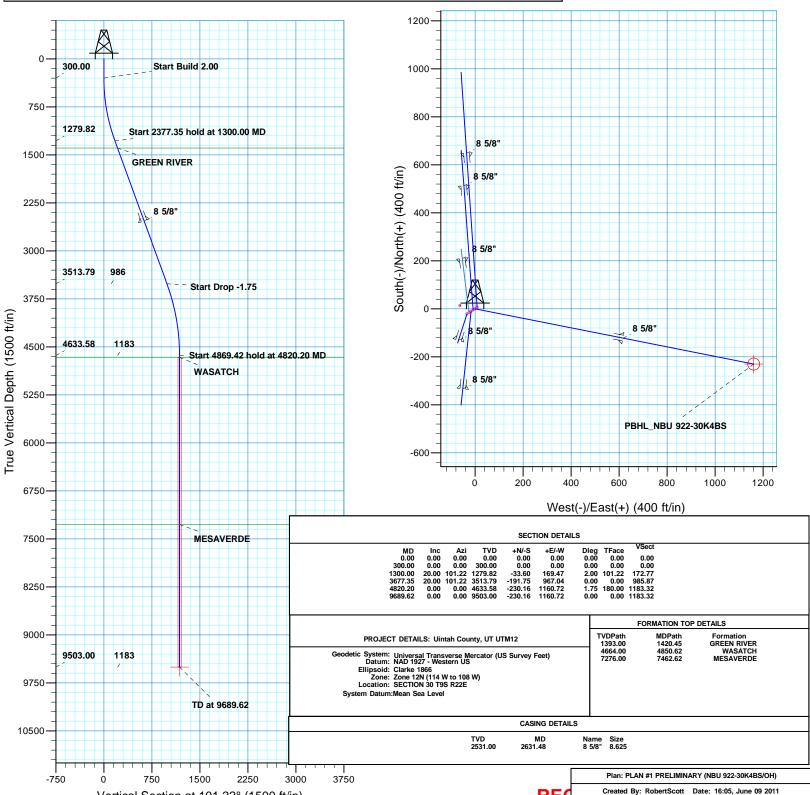
Design: PLAN #1 PRELIMINARY





Vertical Section at 101.22° (1500 ft/in)







# **Kerr McGee Oil and Gas Onshore LP**

Uintah County, UT UTM12 NBU 922-30L PAD NBU 922-30K4BS

ОН

Plan: PLAN #1 PRELIMINARY

### **Standard Planning Report**

14 June, 2011



RECEIVED: June 21, 2011



#### SDI Planning Report



EDM5000-RobertS-Local Database:

Company: Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12 NBU 922-30L PAD Site:

Well: NBU 922-30K4BS

Wellbore: ОН

PLAN #1 PRELIMINARY Design:

**Local Co-ordinate Reference:** 

TVD Reference:

MD Reference: North Reference:

**Survey Calculation Method:** 

Well NBU 922-30K4BS

GL 4971' & KB 9' @ 4980.00ft (ASSUMED) GL 4971' & KB 9' @ 4980.00ft (ASSUMED)

True

Minimum Curvature

Project Uintah County, UT UTM12

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 - Western US Geo Datum: Zone 12N (114 W to 108 W) Map Zone:

System Datum: Mean Sea Level

NBU 922-30L PAD, SECTION 30 T9S R22E Site

Northing: 14,531,642.75 usft Site Position: Latitude: 40° 0' 19.796 N From: Lat/Long Easting: 2,064,070.53 usft Longitude: 109° 29' 13.830 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.97 13.200 in

Well NBU 922-30K4BS, 2106 FSL 817 FWL

**Well Position** +N/-S 21.12 ft 14,531,664.45 usft Latitude: 40° 0' 20.005 N Northing: +E/-W 33.89 ft Easting: 2,064,104.06 usft Longitude: 109° 29' 13.394 W

**Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 4,971.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 06/07/2011 11.07 65.88 52.336

PLAN #1 PRELIMINARY Design **Audit Notes:** Version: Phase: PLAN Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 101.22

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	101.22	1,279.82	-33.60	169.47	2.00	2.00	0.00	101.22	
3,677.35	20.00	101.22	3,513.79	-191.75	967.04	0.00	0.00	0.00	0.00	
4,820.20	0.00	0.00	4,633.58	-230.16	1,160.72	1.75	-1.75	0.00	180.00	
9,689.62	0.00	0.00	9,503.00	-230.16	1,160.72	0.00	0.00	0.00	0.00	



# **SDI**Planning Report



Database: Company:

Project:

Site:

EDM5000-RobertS-Local

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12 NBU 922-30L PAD

Well: NBU 922-30K4BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 922-30K4BS

GL 4971' & KB 9' @ 4980.00ft (ASSUMED) GL 4971' & KB 9' @ 4980.00ft (ASSUMED)

True

Minimum Curvature

ign:	PLAN #1 PRE	LIIVIINART							
ned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00		0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build									
400.00	2.00	101.22	399.98	-0.34	1.71	1.75	2.00	2.00	0.00
500.00	4.00	101.22	499.84	-1.36	6.85	6.98	2.00	2.00	0.00
600.00	6.00	101.22	599.45	-3.05	15.39	15.69	2.00	2.00	0.00
700.00	8.00	101.22	698.70	-5.42	27.35	27.88	2.00	2.00	0.00
800.00	10.00	101.22	797.47	-8.47	42.69	43.52	2.00	2.00	0.00
900.00	12.00	101.22	895.62	-12.18	61.41	62.60	2.00	2.00	0.00
1,000.00	14.00	101.22	993.06	-16.55	83.47	85.10	2.00	2.00	0.00
1,100.00		101.22	1,089.64	-21.59	108.86	110.98	2.00	2.00	0.00
1,200.00		101.22	1,185.27	-27.27	137.54	140.21	2.00	2.00	0.00
1,300.00		101.22	1,279.82	-33.60	169.47	172.77	2.00	2.00	0.00
	.35 hold at 1300.00		,						
1,400.00		101.22	1,373.78	-40.26	203.02	206.97	0.00	0.00	0.00
,									
1,420.45		101.22	1,393.00	-41.62	209.88	213.96	0.00	0.00	0.00
GREEN RI		404.00	4 407 75	40.04	000.57	044.47	0.00	0.00	0.00
1,500.00		101.22 101.22	1,467.75	-46.91	236.57 270.12	241.17 275.37	0.00 0.00	0.00 0.00	0.00 0.00
1,600.00 1,700.00		101.22	1,561.72 1,655.69	-53.56 -60.21	303.66	309.58	0.00	0.00	0.00
1,800.00		101.22	1,749.66	-66.86	337.21	343.78	0.00	0.00	0.00
1,900.00		101.22	1,843.63	-73.52	370.76	377.98	0.00	0.00	0.00
2,000.00		101.22	1,937.60	-80.17	404.31	412.18	0.00	0.00	0.00
2,100.00		101.22	2,031.57	-86.82	437.86	446.38	0.00	0.00	0.00
2,200.00		101.22 101.22	2,125.54 2,219.51	-93.47 -100.13	471.41 504.96	480.59 514.79	0.00 0.00	0.00 0.00	0.00 0.00
2,300.00			2,219.51	-100.13					
2,400.00		101.22	2,313.48	-106.78	538.51	548.99	0.00	0.00	0.00
2,500.00		101.22	2,407.45	-113.43	572.05	583.19	0.00	0.00	0.00
2,600.00		101.22	2,501.42	-120.08	605.60	617.39	0.00	0.00	0.00
2,631.48	3 20.00	101.22	2,531.00	-122.18	616.17	628.16	0.00	0.00	0.00
8 5/8"									
2,700.00	20.00	101.22	2,595.39	-126.74	639.15	651.60	0.00	0.00	0.00
2,800.00	20.00	101.22	2,689.35	-133.39	672.70	685.80	0.00	0.00	0.00
2,900.00	20.00	101.22	2,783.32	-140.04	706.25	720.00	0.00	0.00	0.00
3,000.00		101.22	2,877.29	-146.69	739.80	754.20	0.00	0.00	0.00
3,100.00		101.22	2,971.26	-153.34	773.35	788.40	0.00	0.00	0.00
3,200.00	20.00	101.22	3,065.23	-160.00	806.90	822.61	0.00	0.00	0.00
3,300.00	20.00	101.22	3,159.20	-166.65	840.45	856.81	0.00	0.00	0.00
3,400.00		101.22	3,253.17	-173.30	873.99	891.01	0.00	0.00	0.00
3,500.00		101.22	3,347.14	-179.95	907.54	925.21	0.00	0.00	0.00
3,600.00		101.22	3,441.11	-186.61	941.09	959.41	0.00	0.00	0.00
3,677.35		101.22	3,513.79	-191.75	967.04	985.87	0.00	0.00	0.00
Start Drop	-1.75								
3,700.00	19.60	101.22	3,535.10	-193.24	974.57	993.54	1.75	-1.75	0.00
3,800.00		101.22	3,629.81	-199.49	1,006.06	1,025.65	1.75	-1.75	0.00
3,900.00		101.22	3,725.44	-205.17	1,034.71	1,054.85	1.75	-1.75	0.00
4,000.00	14.35	101.22	3,821.93	-210.28	1,060.47	1,081.12	1.75	-1.75	0.00
4,100.00	12.60	101.22	3,919.17	-214.81	1,083.33	1,104.42	1.75	-1.75	0.00
4,200.00	10.85	101.22	4,017.08	-218.76	1,103.27	1,124.75	1.75	-1.75	0.00
4,300.00		101.22	4,115.56	-222.13	1,120.27	1,142.08	1.75	-1.75	0.00
4,400.00		101.22	4,214.53	-224.92	1,134.31	1,156.39	1.75	-1.75	0.00
4,500.00		101.22	4,313.89	-227.11	1,145.37	1,167.67	1.75	-1.75	0.00



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12 NBU 922-30L PAD

 Site:
 NBU 922-30L PAD

 Well:
 NBU 922-30K4BS

Wellbore: OH

Design: PLAN #1 PRELIMINARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 922-30K4BS

GL 4971' & KB 9' @ 4980.00ft (ASSUMED) GL 4971' & KB 9' @ 4980.00ft (ASSUMED)

True

Minimum Curvature

Design:	PLAN #1 PRE	LIMINARY							
Planned Survey									
r latilieu outvey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
4,600.00	3.85	101.22	4,413.54	-228.72	1,153.46	1,175.92	1.75	-1.75	0.00
4,700.00	2.10	101.22	4,513.40	-229.73	1,158.56	1,181.11	1.75	-1.75	0.00
4,800.00	0.35	101.22	4,613.38	-230.14	1,160.66	1,183.26	1.75	-1.75	0.00
4,820.20	0.00	0.00	4,633.58	-230.16	1,160.72	1,183.32	1.75	-1.75	0.00
	hold at 4820.20		4.004.00	220.40	4 400 70	1,183.32	0.00	0.00	0.00
4,850.62 <b>WASATCH</b>	0.00	0.00	4,664.00	-230.16	1,160.72	1,103.32	0.00	0.00	0.00
4,900.00	0.00	0.00	4,713.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
,									
5,000.00	0.00	0.00	4,813.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
5,100.00 5,200.00	0.00 0.00	0.00 0.00	4,913.38 5,013.38	-230.16 -230.16	1,160.72 1,160.72	1,183.32 1,183.32	0.00 0.00	0.00 0.00	0.00 0.00
5,300.00	0.00	0.00	5,113.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
5,400.00	0.00	0.00	5,213.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
5,500.00 5,600.00	0.00 0.00	0.00 0.00	5,313.38 5,413.38	-230.16 -230.16	1,160.72 1,160.72	1,183.32 1,183.32	0.00 0.00	0.00 0.00	0.00 0.00
5,700.00	0.00	0.00	5,513.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
5,800.00	0.00	0.00	5,613.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
5,900.00	0.00	0.00	5,713.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,000.00	0.00	0.00	5,813.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,100.00	0.00	0.00	5,913.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,200.00	0.00	0.00	6,013.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,300.00	0.00	0.00	6,113.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,400.00	0.00	0.00	6,213.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,500.00	0.00	0.00	6,313.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,600.00	0.00	0.00	6,413.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,700.00	0.00	0.00	6,513.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,800.00	0.00	0.00	6,613.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
6,900.00	0.00	0.00	6,713.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
7,000.00	0.00	0.00	6,813.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
7,100.00	0.00	0.00	6,913.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
7,200.00 7,300.00	0.00 0.00	0.00 0.00	7,013.38	-230.16	1,160.72	1,183.32	0.00	0.00 0.00	0.00 0.00
7,300.00	0.00	0.00	7,113.38 7,213.38	-230.16 -230.16	1,160.72 1,160.72	1,183.32 1,183.32	0.00 0.00	0.00	0.00
					•				
7,462.62	0.00	0.00	7,276.00	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
MESAVERDE		0.00	7 040 00	220.40	4 400 70	4 400 00	0.00	0.00	0.00
7,500.00 7,600.00	0.00 0.00	0.00 0.00	7,313.38 7,413.38	-230.16 -230.16	1,160.72 1,160.72	1,183.32 1,183.32	0.00 0.00	0.00 0.00	0.00 0.00
7,700.00	0.00	0.00	7,513.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
7,800.00	0.00	0.00	7,613.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
7,900.00	0.00	0.00	7,713.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,000.00	0.00	0.00	7,813.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,100.00	0.00	0.00	7,913.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,200.00	0.00	0.00	8,013.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,300.00	0.00	0.00	8,113.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,400.00	0.00	0.00	8,213.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,500.00	0.00	0.00	8,313.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,600.00	0.00	0.00	8,413.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,700.00	0.00	0.00	8,513.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,800.00	0.00	0.00	8,613.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
8,900.00	0.00	0.00	8,713.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,000.00	0.00	0.00	8,813.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,100.00	0.00	0.00	8,913.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,200.00	0.00	0.00	9,013.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00



### **SDI**Planning Report



Database: Company:

Well:

EDM5000-RobertS-Local

Kerr McGee Oil and Gas Onshore LP

Project: Uintah County, UT UTM12
Site: NBU 922-30L PAD

ОН

Wellbore:

Design:

PLAN #1 PRELIMINARY

NBU 922-30K4BS

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well NBU 922-30K4BS

GL 4971' & KB 9' @ 4980.00ft (ASSUMED)

GL 4971' & KB 9' @ 4980.00ft (ASSUMED)

True

Minimum Curvature

nned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,300.00	0.00	0.00	9,113.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,400.00	0.00	0.00	9,213.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,500.00	0.00	0.00	9,313.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,600.00	0.00	0.00	9,413.38	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
9,689.62	0.00	0.00	9,503.00	-230.16	1,160.72	1,183.32	0.00	0.00	0.00
PBHL_NBU	922-30K4BS								

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-30K4B( - plan hits target cent - Circle (radius 25.00		0.00	9,503.00	-230.16	1,160.72	14,531,454.03	2,065,268.51	40° 0' 17.730 N	109° 28' 58.476 W

Casing Points					
	Measured	Vertical		Casing	Hole
	Depth	Depth		Diameter	Diameter
	(ft)	(ft)	Name	(in)	(in)
	2,631.48	2,531.00 8 5/8		8.625	11.000

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,420.45	1,393.00	GREEN RIVER		0.00	
	4,850.62	4,664.00	WASATCH		0.00	
	7,462.62	7,276.00	MESAVERDE		0.00	

Plan Annotations				
Measured	Vertical	Local Coord	dinates	
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	-33.60	169.47	Start 2377.35 hold at 1300.00 MD
3,677.35	3,513.79	-191.75	967.04	Start Drop -1.75
4,820.20	4,633.58	-230.16	1,160.72	Start 4869.42 hold at 4820.20 MD
9,689.62	9,503.00	-230.16	1,160.72	TD at 9689.62

NBU 922-30L Pad Surface Use Plan of Operations 1 of 13

#### Kerr-McGee Oil & Gas Onshore. L.P.

#### **NBU 922-30L Pad**

<u>API #</u>	N			
	Surface:	2112 FSL / 826 FWL	NWSW	Lot 3
	BHL:	2194 FNL / 760 FWL	SWNW	Lot 2
<u>API #</u>	N	IBU 922-30E4CS	=	
	Surface:	2101 FSL / 809 FWL	NWSW	Lot 3
	BHL:	2519 FNL / 760 FWL	SWNW	Lot 2
API#	N	IBU 922-30K4BS		
<u> </u>	Surface:	2106 FSL / 817 FWL	NWSW	Lot 3
	BHL:	1872 FSL / 1978 FWL	NESW	Lot
A D1 //		IDLL 000, 2014DC		
<u>API #</u>		IBU 922-30L1BS	_	
	Surface:	2090 FSL / 792 FWL	NWSW	Lot 3
	BHL:	2355 FSL / 759 FWL	NWSW	Lot 3
API #4304739540	N	IBU 922-30L1CS		
	Surface:	2085 FSL / 783 FWL	NWSW	Lot 3
	BHL:	1964 FSL / 744 FWL	NWSW	Lot 3
API#	N	IBU 922-30L4BS		
<u> </u>	Surface:	2096 FSL / 800 FWL	NWSW	Lot 3
	BHL:	1705 FSL / 758 FWL	NWSW	
	BHL:	1700 F3L / 738 FVVL	1444244	Lot 3

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on May 5, 2011. Present were:

- · David Gordon, Melissa Wardle, Karl Wright and Dan Emmett BLM; and
- · John Slaugh and Mitch Batty Timberline Engineering & Land Surveying, Inc.; and
- · Jacob Dunham 609 Consulting, LLC; and
- · Andy Lytle, Charles Chase, Ken Gathings, Roger Parry, Grizz Oleen, and Sheila Wopsock Kerr-McGee

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

NBU 922-30L Pad Surface Use Plan of Operations 2 of 13

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

No segments require a ROW.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts,

bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road-utility corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s) adjacent to the well pad, as necessary.

NBU 922-30L Pad Surface Use Plan of Operations 3 of 13

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

The following segments are "on-lease"

 $\pm410'$  (0.08 miles) – Section 30 T09S R22E (NW/4 SW/4) – On-lease UTU0463, re-route from the SW corner of the pad to the existing access road. Please refer to Topo B.

#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 52J, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on June 2, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components that contain fluids (i.e. production tanks, produced liquids tanks, but typically excluding dehy's and/or separators). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accomodate a 25 year rainfall event, and be independent of the back cut. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

#### **GAS GATHERING**

Please refer to Exhibit A and Topo D- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 1,660$ ° and the individual segments are broken up as follows:

NBU 922-30L Pad Surface Use Plan of Operations 4 of 13

#### The following segments are "onlease", no ROW needed.

- ±90' (0.01 miles) Section 30 T09S R22E (NW/4 SW/4) On-lease UTU0463, BLM surface, New 6" buried gas gathering pipeline from the meter to the 30N intersection. Please refer to Topo D2 Pad and Pipeline Detail.
- ±1,570' (0.3 miles) Section 30 T09S R22E (NW/4 SW/4) On-lease UTU0463, BLM surface, New 10" buried gas pipeline from the 30N intersection to the existing 16" gas pipeline (SE/4 NW/4). Please refer to Exhibit A, Line 13. This pipeline will be used concurrently with the 30N pad.

#### CATHODIC PROTECTION SITE

Section 30 T09S R22E (NE/4 SW/4) 2474' FSL & 1186' FWL

Deep well ground bed and Cathodic Protection equipment will be installed within the pipeline route to protect the integrity of the pipeline(s). A buried power line approximately 120 Volts +/- will be constructed from the existing overhead power line to a rectifier. The rectifier, which is approximately 3' X 4' +/-, will convert the AC power to DC power; it is then connected to the buried pipeline(s) to protect it from corrosion. Please see attached plat, location layout, typical set-up, and Topo B map.

#### LIQUID GATHERING

Please refer to Exhibit B and Topo D- Pad and Pipeline Detail.

Kerr-McGee proposes to install liquid gathering lines in a southwesterly direction to tie into a proposed southeasterly flowing buried pipeline. The total of this proposed liquid gathering from the meter to the Section lease line (SE/4 SE/4) is  $\pm 6,590'$  and the individual segments are broken up as follows:

#### The following segments are "onlease", no ROW needed.

- ±90' (0.01 miles) Section 30 T09S R22E (NW/4 SW/4) On-lease UTU0463, BLM surface, New 6" buried liquid gathering pipeline from the separator to the 30N intersection. Please refer to Topo D2 Pad and Pipeline Detail.
- ±595' (0.12 miles) Section 30 T09S R22E (NW/4 SW/4) Lease UTU0463, BLM surface, New 6" buried liquid gathering pipeline from the 30N intersection to the proposed 30F intersection (NW/4 SW/4). Please refer to Exhibit B, Line 16. This pipeline will be used concurrently with the 30N pad.
- $\pm 1,010^{\circ}$  (0.19 miles) Section 30 T09S R22E (SE/4 NW/4) Lease UTU0463, BLM surface, Two (2) new 6" buried liquid gathering pipelines from the proposed 30G Intersection to the proposed 30L intersection (SE/4 NW/4). Please refer to Exhibit B, Line 2. This pipeline will be used concurrently with the 30H, 30C, 30B, 30F, 30G, 30A, and 30N pads. Two (2) lines for a total of 2,020'.
  - ±495' (0.09 miles) Section 30 T09S R22E (SE/4 NW/4) Lease UTU0463, BLM surface, Two (2) new 6" buried liquid gathering pipelines from the proposed Transfer line to the tie-in point at the proposed 30G/30F intersection (SW/4 NE/4). Please refer Exhibit B, Line 13. This pipeline will be used concurrently with the 30H, 30C, 30B, 30F, 30G, 30A, and 30N pads. Two (2) Lines for a total of 990'.
- ±2,895' (0.55 miles) Section 30 T09S R22E (SW/4 NE/4) Lease UTU0463, BLM surface, New 6" buried liquid gathering pipeline from the proposed 30G/30F intersection going southeast to the edge of the lease boundry of SE/4 SE/4. Please refer to Exhibit B, Line 15. The remaining liquid pipeline segment will travel to the existing tank battery on State surface. Kerr-McGee will apply for the appropriate State easements under separate cover. This pipeline will be used concurrently with the 30H, 30C, 30B, 30F, 30G, 30A, and 30N pads.

NBU 922-30L Pad Surface Use Plan of Operations 5 of 13

Kerr-McGee, additionally will install a liquid gathering line in a southwesterly direction to tie-into a proposed northwesterly flowing buried pipeline. The total of this proposed liquid gathering from the meter to the tie in point is  $\pm 3,255$ ' and the individual segments are broken up as follows:

#### The following segments are "onlease", no ROW needed.

- ±90' (0.01 miles) Section 30 T09S R22E (NW/4 SW/4) On-lease UTU0463, BLM surface, New 6" buried liquid gathering pipeline from the separator to the 30N intersection. Please refer to Topo D2 Pad and Pipeline Detail.
- ±595' (0.12 miles) Section 30 T09S R22E (NW/4 SW/4) Lease UTU0463, BLM surface, New 6" buried liquid gathering pipeline from the 30N intersection to the proposed 30F intersection (NW/4 SW/4). Please refer to Exhibit B, Line 16. This pipeline will be used concurrently with the 30N pad.
- ±1,285' (0.24 miles) Section 30 T09S R22E (NW/4 SW/4) Lease UTU0463, BLM surface, Two (2) new 6" buried liquid gathering pipelines from the proposed 30L Intersection to the West Line of Section 30 where it will tie-into an existing liquid gathering pipeline on State surface. Please refer to Exhibit B, Line 1. Two (2) lines for a total of 2,570'. This pipeline will be used concurrently with the 30H, 30C, 30B, 30F, 30G, 30A, and 30N pads.

#### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr-McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45' for buried lines and 30' for surface lines. In addition, Kerr-McGee requests for a permanent 30' distrubance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent distrubance width is for maintenance and repairs. Cross country permanent distrubance width also are required to be 30'.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If all three lines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

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The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface. Please see site specific PODs and/or mapping materials for location of related facilities such as cathodic protection wells or pumping stations. Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, lateral T's, and/or cathodic protection wells will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

Deep well ground bed and Cathodic Protection equipment will be installed within the pipeline route to protect the integrity of the pipeline(s). A buried power line approximately 120 Volts +/- will be constructed from the existing overhead power line to a rectifier. The rectifier, which is approximately 3' X 4' +/-, will convert the AC power to DC power; it is then connected to the buried pipeline(s) to protect it from corrosion. Please see attached plat for location of Cathodic Protection.

#### The Anadarko Completions Transportation System (ACTS) information:

Please refer to Exhibit C for ACTs Lines

Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize the pit on this the proposed location as an Anadarko Completion Transport System (ACTS) staging pit which will be utilized for other completion operations in the area. The ACTS process will reduce the amount of truck traffic on a field-wide basis, also reducing vehicle emissions and fugitive dust generation.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum pipe liquids transfer lines between frac locations. The pit will be refurbished as follows: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will

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reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit. Hog fence panels (5'  $\times$  16') will be built and painted shadow gray and will be put up on the work side of the pit. Polypropylene netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks can unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum pipe water transfer lines on the surface between either existing or refurbished reserve pits. Please see the attached ACTS exhibit C for placement of the proposed temporary lines. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. Kerr-McGee understands that due to the temporary nature of this system BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

#### E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from federal lands without prior approval from the BLM. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

#### G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BLM, for all reportable spills of oil, produced liquids, and hazardous materials.

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Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives, chromium/metals-based or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil/topsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BLM. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BLM.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42"and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16'. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

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Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance, or meet the quantities criteria per BLM Instruction Memorandum No. 93-344, will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E

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#### H. Ancillary Facilities:

No additional ancillary facilities are planned for this location.

#### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit, access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

Where produced liquids tanks are utilized, the tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids. The tanks will be fenced or capped to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without the prior approval of the BLM.

### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

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A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

#### **Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24" on 18 to 24" centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18"deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BLM.

## **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Shadescale Mix	e Live Seed lbs/acre
Indian Ricegrass (Nezpar)	3
Sandberg bluegrass	0.75
Bottlebrush squirreltail	1
Great Basin Wildrye	0.5

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Crested wheatgrass (Ephraim)	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing saltbush	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

#### **Weed Control**

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

### Monitoring

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 31, of the calendar year following the data collection.

### K. Surface/Mineral Ownership:

United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435)781-4400

### L. Other Information:

### **Onsite Specifics:**

- A 404 Stream Alteration Permit will be obtained to cross the Sand Wash in the SE/4 of the section See Exhibit A or B.
- · Facilities: Will be painted Shadow Grey
- Existing surface gas gathering pipeline will be removed from location if no longer in service

NBU 922-30E4BS / 922-30E4CS / 922-30K4BS / 922-30L1BS / 922-30L1CS / 922-30L4BS Kerr-McGee OII Gas Onshore, L.P.

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### Cultural and Paleontological Resources

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BLM.

### Resource Reports:

A Class I literature survey was completed on February 11, 2011, by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 10-243b.

A paleontological reconnaissance survey was completed on December 31, 2010, by Intermountain Paleo-Consulting. For additional details please refer to report IPC #10-33.

Biological field survey was completed on January 27, 2011, by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-405.

Biological field survey was completed for the Southeast Trunk Liquid Line on June 2, 2011, by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-457.

#### M. Lessee's or Operators' Representative & Certification:

Laura Abrams
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6356

Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

- Laura Brains	June 2, 2011
Laura Abrams	Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

April 4, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 922-30K4BS

T9S-R22E

Section 30 NWSW (Surf), NESW (Bottom)

Surface: 2106' FSL, 817' FWL Bottom Hole: 1872' FSL, 1978' FWL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 922-30K4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney Sr. Staff Landman

Joe Matines

# **United States Department of the Interior**

# BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

June 27, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

# **NBU 922-30M PAD**

BHL Sec 30 T09S R22E 1380 FSL 0758 FWL 43-047-51692 NBU 922-30M1BS Sec 30 T09S R22E 0566 FSL 0215 FWL BHL Sec 30 T09S R22E 1055 FSL 0758 FWL 43-047-51693 NBU 922-30M1CS Sec 30 T09S R22E 0556 FSL 0213 FWL BHL Sec 30 T09S R22E 0730 FSL 0757 FWL 43-047-51694 NBU 922-30M4BS Sec 30 T09S R22E 0536 FSL 0210 FWL BHL Sec 30 T09S R22E 0405 FSL 0757 FWL 43-047-51695 NBU 922-30N4CS Sec 30 T09S R22E 0546 FSL 0212 FWL BHL Sec 30 T09S R22E 0252 FSL 1974 FWL **NBU 922-30G PAD** 43-047-51696 NBU 922-30G3DS Sec 30 T09S R22E 2550 FNL 2411 FEL BHL Sec 30 T09S R22E 2517 FNL 1846 FEL 43-047-51697 NBU 922-30G4BS Sec 30 T09S R22E 2544 FNL 2403 FEL BHL Sec 30 T09S R22E 2199 FNL 1677 FEL 43-047-51698 NBU 922-30I2AS Sec 30 T09S R22E 2557 FNL 2419 FEL BHL Sec 30 T09S R22E 2527 FSL 0856 FEL 43-047-51699 NBU 922-30J1BS Sec 30 T09S R22E 2563 FNL 2426 FEL BHL Sec 30 T09S R22E 2360 FSL 1675 FEL API # WELL NAME LOCATION

(Proposed PZ WASATCH-MESA VERDE)

NBU 922-30G PAI	D
13-017-51700	7

43-047-51700		922-30G1CS BHL					
		922-30J4BS BHL					
<b>NBU 922-30H PAE</b> 43-047-51702		922-30G1BS BHL					
43-047-51703	NBU	922-30H2AS BHL					
43-047-51704	NBU	922-30H3AS BHL					
43-047-51705  NBU 922-30L PAD		922-30H3DS BHL					
		922-30E4BS BHL					
43-047-51707	NBU	922-30E4CS BHL					
43-047-51708	NBU	922-30K4BS BHL					
43-047-51709	NBU	922-30L1BS BHL					
43-047-51710 <b>922-30N PAD</b>	NBU	922-30L4BS BHL					
	NBU	922-30N1BS BHL					
43-047-51712	NBU	922-30J4CS BHL				1754 1673	
43-047-51713	NBU	922-30K4CS BHL			_	1724 1977	
43-047-51714	NBU	922-30N4BS BHL				1744 1974	
43-047-51715	NBU	922-3001BS BHL			_	1763 1672	

Page 3

API # WELL NAME

LOCATION

(Proposed PZ WASATCH-MESA VERDE)

### 922-30N PAD

BHL Sec 30 T09S R22E 0732 FSL 1671 FEL

This office has no objection to permitting the wells at this time.

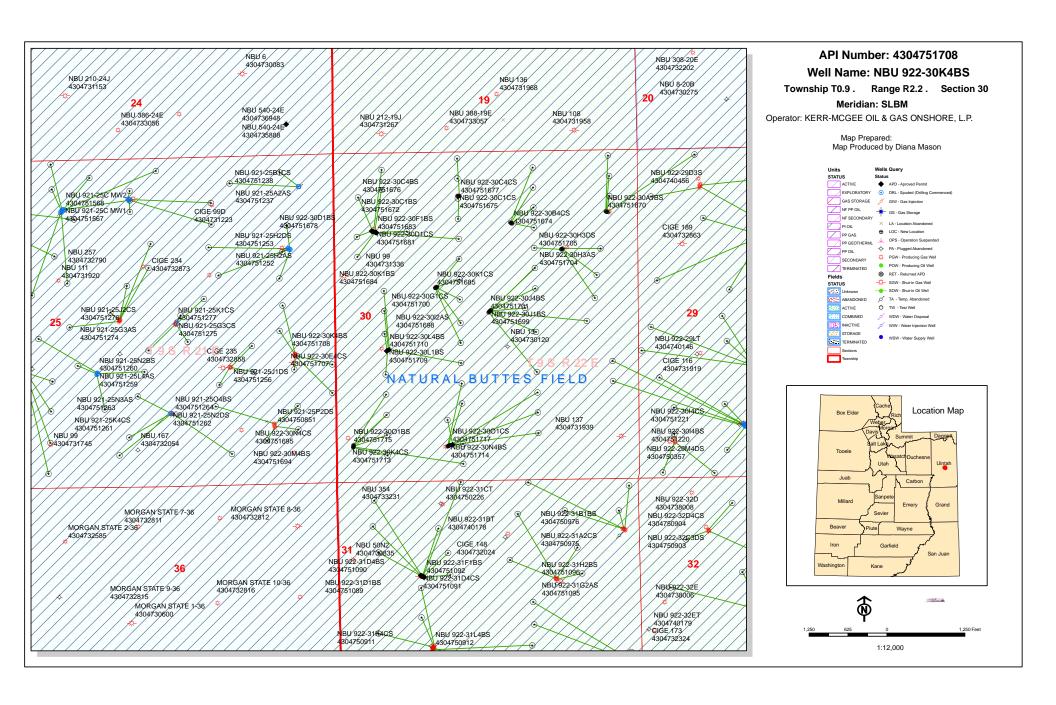
Michael L. Coulthard

DN: cn=Michael L. Coulthard, o=Bureau of Land Management,
ou=Branch of Minerals, email=Michael\_Coulthard@blm.gov, c=US Date: 2011.06.27 08:54:22 -06'00'

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining

> Central Files Agr. Sec. Chron Fluid Chron

MCoulthard:mc:6-27-11



# WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 6/21/2011 **API NO. ASSIGNED:** 43047517080000

WELL NAME: NBU 922-30K4BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6356

**CONTACT:** Laura Abrams

PROPOSED LOCATION: NWSW 30 090S 220E **Permit Tech Review:** 

> SURFACE: 2106 FSL 0817 FWL **Engineering Review:**

> **BOTTOM:** 1872 FSL 1978 FWL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE: 40.00565 LONGITUDE:** -109.48699

**UTM SURF EASTINGS: 629146.00 NORTHINGS: 4429271.00** 

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

**LEASE NUMBER: UTU463** PROPOSED PRODUCING FORMATION(S): WASATCH-MESA VERDE

SURFACE OWNER: 1 - Federal **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

 PLAT R649-2-3.

Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291

**Potash** R649-3-2. General

Oil Shale 190-5

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-14 Water Permit: 43-8496

**Effective Date:** 12/2/1999 **RDCC Review:** 

Siting: Suspends General Siting **Fee Surface Agreement** 

✓ Intent to Commingle ✓ R649-3-11. Directional Drill

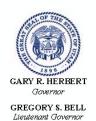
**Commingling Approved** 

**Comments:** Presite Completed

Stipulations:

3 - Commingling - ddoucet 4 - Federal Approval - dmason 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason

API Well No: 43047517080000



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# **Permit To Drill**

\*\*\*\*\*\*

Well Name: NBU 922-30K4BS **API Well Number:** 43047517080000

**Lease Number:** UTU463 **Surface Owner:** FEDERAL **Approval Date:** 8/17/2011

### **Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

# **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

# **Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

# **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

API Well No: 43047517080000

# **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at http://oilgas.ogm.utah.gov

# **Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) due prior to implementation
- Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
- Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

**Approved By:** 

For John Rogers Associate Director, Oil & Gas Form 3160-3 (August 2007)

# RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR JUL 0 1 2011

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

BUREAU OF LAND	MANAGEMENT	UTU463	
APPLICATION FOR PERMIT	TO DALL OR REENTER NAI Utal	6. If Indian, Allottee or Trib	e Name
1a. Type of Work: 🛛 DRILL 🔲 REENTER		7. If Unit or CA Agreement, UTU63047A	, Name and No.
		8. Lease Name and Well No	
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Ot		NBU 922-30K4BS	
<ol> <li>Name of Operator KERR-MCGEE OIL&amp;GAS ONSHORE Vall Plaura. A</li> </ol>	LAURA ABRAMS brams@anadarko.com	9. API Well No. 1-5	1708
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356	10. Field and Pool, or Explor NATURAL BUTTES	
4. Location of Well (Report location clearly and in accorded	unce with any State requirements.*)	11. Sec., T., R., M., or Blk. a	and Survey or Area
At surface NWSW Lot 3 2106FSL 81	7FWL 40.005522 N Lat, 109.487740 W Lon	Sec 30 T9S R22E Me	er SLB
At proposed prod. zone NESW 1872FSL 1978FWL	. 40.004890 N Lat, 109.483596 W Lon		
14. Distance in miles and direction from nearest town or post APPROXIMATELY 42.3 MILES SOUTH OF VE	office* RNAL, UT	12. County or Parish UINTAH COUNTY	13. State UT
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1872</li> </ol>	16. No. of Acres in Lease 551.00	17. Spacing Unit dedicated to	o this well
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file	
824	9690 MD 9503 TVD WYB00029		
21. Elevations (Show whether DF, KB, RT, GL, etc. 4972 GL	22. Approximate date work will start 12/01/2011	23. Estimated duration 60-90 DAYS	
	24. Attachments		
The following, completed in accordance with the requirements of	f Onshore Oil and Gas Order No. 1, shall be attached to	his form:	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syst SUPO shall be filed with the appropriate Forest Service Off</li> </ol>	Item 20 above). 5. Operator certification	ns unless covered by an existing formation and/or plans as may be	
25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356		Date 06/21/2011
Title REGULATORY ANALYST II			
Approved by (Signature)	Name (Printed/Typed) Jerry Kenczka		<sup>Dat</sup> JAN 0 9 2012
Title // Kssistant Field Manager Lands & Mineral Resources	VERNAL FIELD OFFIC		
Application approval does not warrant or certify the applicant ho operations thereon.  Conditions of approval, if any, are attached.		PROVAL ATTACHED	licant to conduct
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, n States any false, fictitious or fraudulent statements or representati			
Additional Operator Demonts (and nove nove)		TIL.	<b>CEIVED</b>
Additional Operator Remarks (see next page)		J.	N 1 3 2012

Electronic Submission #111126 verified by the BLM Well Information System For KERR-MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

DIV. OF OIL, GAS & MINING

UDOGM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

NOTICE OF APPROVAL ISXS 1491 AS

NOS-18/25/2011



# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



# CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Well No: API No: Kerr-McGee Oil & Gas Onshore, LP

NBU 922-30K4BS

43-047-51708

Location: Lease No: LOT 3, Sec. 30, T9S, R22E

UTU-463

Agreement:

**Natural Buttes Unit** 

**OFFICE NUMBER:** 

(435) 781-4400

**OFFICE FAX NUMBER:** 

(435) 781-3420

# A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

# NOTIFICATION REQUIREMENTS

Location Construction (Notify Environmental Scientist)	-	Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	-	Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	_	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <u>blm_ut_vn_opreport@blm.gov</u> .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

Page 2 of 7 Well: NBU 922-30K4BS 12/21/2011

# SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- All new and replacement internal combustion gas field engines of less than or equal to 300 designrated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop
  work and contact the Authorized Officer (AO). A determination will be made by the AO as to what
  mitigation may be necessary for the discovered paleontologic material before construction can
  continue.
- Kerr McGee will adhere to all applicant committed conservation measures and conservation recommendations that are stated in the USFWS's "Final Biological Opinion for the Anadarko Petroleum Corporation Natural Buttes Unit and Bonanza Area Natural Gas Development Project.
- The operator will follow the Green River District Reclamation Guidelines for Reclamation.

# Mitigation for Invasive Weeds

- All vehicles and equipment will be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.
- All disturbance areas will be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established
- Noxious and invasive weeds will be controlled throughout the area of project disturbance.
- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.
- A pesticide use permit (PUP) will be obtained for the project, if applicable.

# Mitigation for Paleontology

 A permitted paleontologist is to be present for monitor purposes during all surface disturbing actives: examples include the following building of the well pad, access road, and pipelines

# Mitigation Measures for Colorado River Fish Species:

 The best method to avoid entrapment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.

Page 3 of 7 Well: NBU 922-30K4BS 1/10/2012

- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
  - a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes:
  - b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (see above); and
  - c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.
- Screen all pump intakes with 3/32" mesh material.
- Report any fish impinged on the intake screen to the Service (801.975.3330) and the Utah Division of Wildlife Resources:

Northeastern Region 152 East 100 North, Vernal, UT 84078 Phone: (435) 781-9453

# Mitigation for Migratory birds.

- Construction and drilling is not allowed from January 1 August 31 to minimize impacts during Golden Eagle and Red-tailed hawk nesting
- If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist shall be notified so surveys can be conducted. Depending upon the results of the surveys, permission to proceed may or may not be granted by the BLM Authorized Officer.

Page 4 of 7 Well: NBU 922-30K4BS

# 12/21/2011

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

# SITE SPECIFIC DOWNHOLE COAs:

- Gamma ray Log shall be run from Total Depth to Surface.
- CBL will be run from TD to TOC.

# Variances Granted: Air Drilling

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

# DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily
  drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order
  No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a
  test pump with a chart recorder and <u>NOT</u> by the rig pumps. Test shall be reported in the driller's
  log.

Page 5 of 7 Well: NBU 922-30K4BS 12/21/2011

 BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is
  encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal
  Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 6 of 7 Well: NBU 922-30K4BS 12/21/2011

# **OPERATING REQUIREMENT REMINDERS:**

 All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.

- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at <a href="https://www.ONRR.gov">www.ONRR.gov</a>.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written communication
  and must be received in this office by not later than the fifth business day following the date on
  which the well is placed on production. The notification shall provide, as a minimum, the following
  informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - o The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - o The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - o Unit agreement and/or participating area name and number, if applicable.
  - o Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

Page 7 of 7 Well: NBU 922-30K4BS 12/21/2011

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office
  Petroleum Engineers will be provided with a date and time for the initial meter calibration and all
  future meter proving schedules. A copy of the meter calibration reports shall be submitted to the
  BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid
  hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall
  be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to
  the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first.
  All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All
  product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in
  accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior approval
  of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior
  approval of the BLM Vernal Field Office shall be obtained and notification given before resumption
  of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

SUBMIT AS EMAIL

Print Form

# **BLM - Vernal Field Office - Notification Form**

	L&GAS Rig Name/# BUCKET RIG
	<u>ske</u> Phone Number <u>720.929.6304</u>
Well Name/Number NBU 9	
	Township <u>9S</u> Range <u>22E</u>
Lease Serial Number UTU	163
API Number <u>4304751708</u>	
<u>Spud Notice</u> – Spud is the out below a casing string.	initial spudding of the well, not drilling
Date/Time 05/03/2012	13:00 HRS AM PM
Casing — Please report times.  ✓ Surface Casing  Intermediate Casing Production Casing Liner Other	ne casing run starts, not cementing
Date/Time 05/21/2012	08:00 HRS AM PM
BOPE Initial BOPE test at s BOPE test at intermed 30 day BOPE test Other	
Date/Time	AM
Remarks ESTIMATED DATE AND TI	ME. PLEASE CONTACT KENNY GATHINGS AT
435.828.0986 OR LOVEL YOUNG AT 435	5.781.7051

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURG		FORM 9
ι	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463		
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT OF CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047517080000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-6	9. FIELD and POOL or WILDCAT:
4. LOCATION OF WELL FOOTAGES AT SURFACE:			COUNTY: UINTAH
2106 FSL 0817 FWL QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWSW Section:	<b>HIP, RANGE, MERIDIAN:</b> 30 Township: 09.0S Range: 22.0E Mer	idian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOF	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
5/15/2012			
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU AIR RIG ON 5 SURFACE CASING	COMPLETED OPERATIONS. Clearly show 5/13/2012. DRILLED SURFACE AND CEMENTED. WELL IS WANT JOB WILL BE INCLUDED WREPORT.	CE HOLE TO 2750'. RAN AITING ON ROTARY RIG.	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 18, 2012
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUME</b> 720 929-6029	BER TITLE Regulatory Analyst I	
SIGNATURE N/A		DATE 5/18/2012	

	STATE OF UTAH			FORM 9
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463	
SUNDR	Y NOTICES AND REPORTS	S ON W	/ELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			<b>9. API NUMBER:</b> 43047517080000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021		E NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	tip, range, Meridian: 30 Township: 09.0S Range: 22.0E Me	eridian: S		STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NAT	URE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE	☐ ALT	ER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	СНА	NGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	□ сом	MINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ FRA	CTURE TREAT	☐ NEW CONSTRUCTION
·	OPERATOR CHANGE	PLU	G AND ABANDON	PLUG BACK
✓ SPUD REPORT	PRODUCTION START OR RESUME		LAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		ETRACK TO REPAIR WELL	TEMPORARY ABANDON
5/4/2012				
DRILLING REPORT	L TUBING REPAIR		T OR FLARE	☐ WATER DISPOSAL
Report Date:	WATER SHUTOFF		A STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	□ отн		OTHER:
MIRU TRIPLE A BU RAN 14" 36.7# SC	COMPLETED OPERATIONS. Clearly show CKET RIG. DRILLED 20" CON HEDULE 10 CONDUCTOR P (. SPUD WELL LOCATION O HRS.	NDUC <sup>*</sup> PIPE. C	TOR HOLE TO 40'. EMENT WITH 28	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY May 14, 2012
NAME (PLEASE PRINT)	PHONE NUM	/BER  ⊤	TTLE	
Jaime Scharnowske	720 929-6304		Regulartory Analyst	
SIGNATURE N/A			OATE 5/14/2012	

Sundry Number: 25743 API Well Number: 43047517080000 FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

STATE OF UTAH		FORM 9	
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.	deepen existing wells below ntal laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047517080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 7 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 30 Township: 09.0S Range: 22.0E Meri	dian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
7	ACIDIZE	ALTER CASING	CASING REPAIR
Approximate date work will start:	✓ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
5/15/2012	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	✓ DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	☐ VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:
The operator reque the well will remain (Mesaverde). The closed loop drilling	completed operations. Clearly show ests approval to deepen the n within the same formation Operator also requests apply option, and a production calously approved drilling plan see the attachment. Thank	well, the total depth of as currently permitted roval for a FIT wavier, asing change. All other will not change. Please	Approved by the Utah Division of Oil, Gas and Mining  Date: May 21, 2012  By:
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMB</b> 720 929-6304	ER TITLE Regulartory Analyst	
SIGNATURE N/A		<b>DATE</b> 5/15/2012	
		3/13/2012	

NBU 922-30K4BS Drilling Program
1 of 7

# Kerr-McGee Oil & Gas Onshore. L.P.

### NBU 922-30K4BS

Surface: 2106 FSL / 817 FWL NWSW BHL: 1872 FSL / 1978 FWL NESW

Section 30 T9S R22E

Unitah County, Utah Mineral Lease: UTU 0463

### ONSHORE ORDER NO. 1

### **DRILLING PROGRAM**

# Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,402'	
Birds Nest	1,727'	Water
Mahogany	2,161'	Water
Wasatch	4,658'	Gas
Mesaverde	7,243'	Gas
Sego	9,478'	Gas
Castlegate	9,541'	Gas
Blackhawk	9,990'	Gas
TVD	10,590'	
TD	10,775'	

# 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

# 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

# 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

# 6. <u>Evaluation Program:</u>

Please refer to the attached Drilling Program

NBU 922-30K4BS Drilling Program
2 of 7

### 7. **Abnormal Conditions**:

Maximum anticipated bottom hole pressure calculated at 10590' TVD, approximately equals 6,989 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,708 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

# 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

# 9. <u>Variances:</u>

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- · Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

NBU 922-30K4BS Drilling Program
3 of 7

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

# Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

NBU 922-30K4BS Drilling Program
4 of 7

### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

# 10. Other Information:

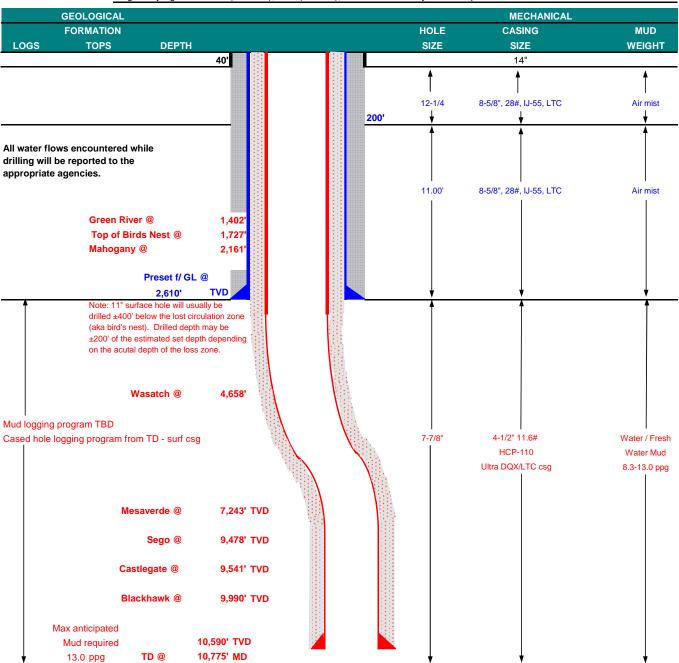
Please refer to the attached Drilling Program.

RECEIVED: May. 15, 2012



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

			<u>DRILL</u>	<u>ING P</u>	<u> </u>	<u>RAM</u> ز			
COMPANY NAME K	ERR-McGEE (	OIL & GAS ONSH	HORE LP		DATE	February 8	, 2012		
WELL NAME N	IBU 922-30I	K4BS			TD	10,590'	TVD	10,775' MD	<u> </u>
FIELD Natural Bu	uttes	COUNTY	Uintah S	TATE Utah	ı	FINIS	HED ELEVATION	N 4,971'	
SURFACE LOCATION	NWSW	2106 FSL	817 FWL	Sec 30	T 9S	R 22E			
	Latitude:	40.005522	Longitude:	-109.487	7740		NAD 83	<u>-</u>	
BTM HOLE LOCATIO	N NESW	1872 FSL	1978 FWL	Sec 30	T 9S	R 22E		_	
	Latitude:	40.004890	Longitude:	-109.483	3596		NAD 83	_	
OBJECTIVE ZONE(S)	BLACKHA	WK (Part of the	Mesaverde Group	p)					
ADDITIONAL INFO	Regulator	y Agencies: BLM	(Minerals), BLM	(Surface), L	JDOGM T	Tri-County Healt	h Dept.		
GEOLO	GICAL						ME	CHANICAL	
FORM	ATION					HOLE	CASI	NG	MUD
LOGS TO	OPS	DEPTH				SIZE	SIZ	E	WEIGHT
		40					14	"	
	•	•		1818		<b>A</b>	<u> </u>		



Drilling Program 6 of 7



# KERR-McGEE OIL & GAS ONSHORE LP

**DRILLING PROGRAM** 

CASING PROGRAM						DESIGN FACTORS					
										LTC	DQX
	SIZE	INT	ERVA	L	WT.	GR.	CPLG.	BURST	COLLAPSE	TE	NSION
CONDUCTOR	14"	C	)-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,610	28.00	IJ-55	LTC	2.06	1.54	5.44	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.21		3.67
	4-1/2"	5,000	to	10,775'	11.60	HCP-110	LTC	1.19	1.21	5.20	

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

### **CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
TOP OUT CMT	(6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE			NOTE: If well will circulate water	to surface, op	tion 2 will be	utilized	
Option 2	LEAD	2,110'	65/35 Poz + 6% Gel + 10 pps gilsonite	190	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
TOP OU	JT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	4,155'	Premium Lite II +0.25 pps	330	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	6,620'	50/50 Poz/G + 10% salt + 2% gel	1,560	35%	14.30	1.31
			+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

# **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

PRODUCTION

Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

1 centralizer on the first 3 joints and one every third joint thereafter.

### **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

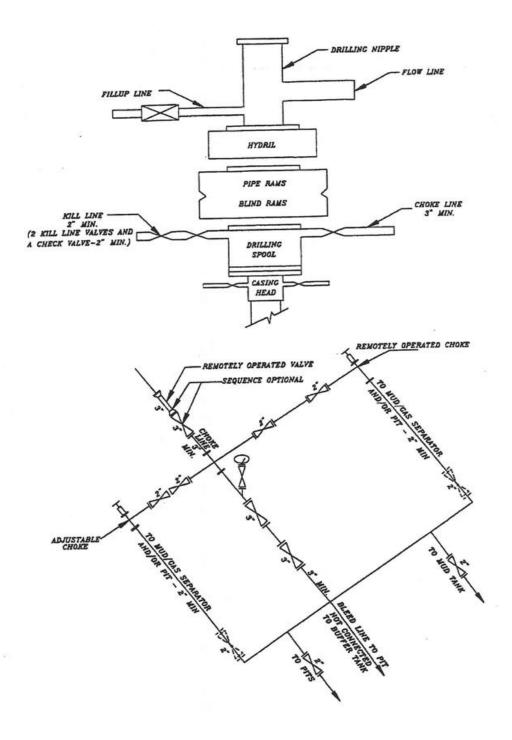
Survevs	will be	taken :	at 1	UUU,	minimum	intervals
ou. voyo	******	, taitoii t	u,	000		mitor valo.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel	·	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young	-	

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A NBU 922-30K4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

# **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. BOX 173779

city DENVER

zip 80217 state CO

Phone Number: (720) 929-6247

Well 1

API Number	Well Name		Name QQ Sec Tv		Twp	Rng	County
4304751709	NBU 922-30L1BS		NWSW	30	098	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		y Assignment ective Date
В	99999	2900		5/3/201	2	5/1	6 12012
omments: MIRI	U BUCKET RIG.	Ù	USMVI	)			

SPUD WELL ON 05/03/2012 AT 1900 HRS.

BHL: nwsw

Well 2

API Number	Well	ell Name QQ		Sec	Twp	Rng	County
4304751710	NBU 922-30L4BS		NWSW 30 09S		22E	UINTAH	
Action Code	Current Entity Number	New Entity Number	S	Spud Date		Entity Assignment Effective Date	
B	99999	2900		5/3/2012		511	612012
Comments: MIRU BUCKET RIG. WSMVD SPUD WELL ON 05/03/2012 AT 2230 HRS. BHL: nwsw							

Well 3

API Number	Well	II Name QQ		Sec	Twp	Rng	County
4304751708	NBU 922-30K4BS		NWSW	NWSW 30 09S		22E	UINTAH
Action Code	Current Entity Number	New Entity Spud Date Number		Spud Date			y Assignment fective Date
B	9999	2900		5/4/2012		5/1	613013
	J BUCKET RIG. D WELL ON 05/04/2012	_	JSMVD HL: Nos	21			

### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

JEN	NΗ	IAW	KIN	18
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Name (Please Prin

Signature OPERATIONS SPECIALIST III

5/9/2012

Title

Date

MAY 1 1 2012 (5/2000)

	STATE OF UTAH		FORM 9			
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463			
SUNDR	RY NOTICES AND REPORTS (	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
Do not use this form for procurrent bottom-hole depth, FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES					
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-30K4BS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047517080000			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL			COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 30 Township: 09.0S Range: 22.0E Merid	ian: S	STATE: UTAH			
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION				
	ACIDIZE	ALTER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME			
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION			
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK			
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION			
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON			
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL			
DRILLING REPORT     Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION			
6/28/2012	_					
	WILDCAT WELL DETERMINATION	OTHER	OTHER:			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  MIRU ROTARY RIG. FINISHED DRILLING FROM 2750' TO 10771' ON 6/26/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED SST 54 RIG ON 6/28/2012 @ 6:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.  ACTIVITIES.  ACTIVITIES.						
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUMBE</b> 720 929-6029	R TITLE Regulatory Analyst I				
SIGNATURE		DATE				
N/A		6/29/2012				

	STATE OF UTAH		FORM 9
ι	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	3	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463
SUNDR	Y NOTICES AND REPORTS ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047517080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PHO n Street, Suite 600, Denver, CO, 80217 37	<b>DNE NUMBER:</b> 79 720 929-6	9. FIELD and POOL or WILDCAT: 5NIATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWSW Section:	IIP, RANGE, MERIDIAN: 30 Township: 09.0S Range: 22.0E Meridian	: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICATE N	IATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
SUBSEQUENT REPORT	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
Date of Work Completion:		FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE  PRODUCTION START OR RESUME	PLUG AND ABANDON RECLAMATION OF WELL SITE	☐ PLUG BACK☐ RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:		SI TA STATUS EXTENSION	APD EXTENSION
8/2/2012		OTHER	OTHER:
12. DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show all pe		epths, volumes, etc.
	r the month of July 2012. Well		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 08, 2012
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	TITLE Regulartory Analyst	
SIGNATURE N/A		<b>DATE</b> 8/2/2012	

Sundry Number: 29627 API Well Number: 43047517080000

	STATE OF UTAH		FORM 9
I	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MININ		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463
SUNDR	Y NOTICES AND REPORTS ON	I WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly decreenter plugged wells, or to drill horizontan for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047517080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PH n Street, Suite 600, Denver, CO, 80217 37	IONE NUMBER: 779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL	COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWSW Section:	STATE: UTAH		
11. CHECI	K APPROPRIATE BOXES TO INDICATE I	NATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			
	_ ACIDIZE _	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
SUBSEQUENT REPORT	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
Date of Work Completion:	L DEEPEN L	FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
✓ DRILLING REPORT	L TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
Report Date: 9/5/2012	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
3/3/2012	WILDCAT WELL DETERMINATION	OTHER	OTHER:
No Activity for	the month of August 2012. W	ell TD at 10,771	epths, volumes, etc.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY September 05, 2012
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	TITLE Regulartory Analyst	
SIGNATURE		DATE	
N/A		9/5/2012	

Sundry Number: 30553 API Well Number: 43047517080000

	STATE OF UTAH				FORM 9
ı	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M		}	5.LEASE UTU463	DESIGNATION AND SERIAL NUMBER:
SUNDR	Y NOTICES AND REPORTS	ON	WELLS	6. IF INDI	AN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			1	CA AGREEMENT NAME: AL BUTTES
1. TYPE OF WELL Gas Well				1	NAME and NUMBER: 22-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.			<b>9. API NU</b> 430475	MBER: 517080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 802		<b>NE NUMBER:</b> 9 720 929-6	1	and POOL or WILDCAT: AL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL	COUNTY				
QTR/QTR, SECTION, TOWNSH	<b>HIP, RANGE, MERIDIAN:</b> 30 Township: 09.0S Range: 22.0E Me	STATE: UTAH			
11. CHEC	K APPROPRIATE BOXES TO INDICA	T, OR O	THER DATA		
TYPE OF SUBMISSION					
	ACIDIZE		ALTER CASING		CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE WELL NAME		
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS		CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT		NEW CONSTRUCTION
	OPERATOR CHANGE	☐ F	PLUG AND ABANDON		PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	F	RECLAMATION OF WELL SITE		RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL		TEMPORARY ABANDON
	TUBING REPAIR		ENT OR FLARE		WATER DISPOSAL
DRILLING REPORT     Report Date:	WATER SHUTOFF	□ s	SI TA STATUS EXTENSION		APD EXTENSION
10/3/2012	WILDCAT WELL DETERMINATION		DTHER	OTHE	R:
	COMPLETED OPERATIONS. Clearly show completing the well. Well T			oi FOF	umes, etc. Accepted by the Utah Division of I, Gas and Mining R RECORD ONLY October 05, 2012
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUM</b> 720 929-6857	BER	TITLE Regulatory Analyst II		
SIGNATURE N/A			<b>DATE</b> 10/3/2012		

Sundry Number: 31436 API Well Number: 43047517080000

	STATE OF UTAH				FORM 9
ι	DEPARTMENT OF NATURAL RESOU DIVISION OF OIL, GAS, AND M		3	5.LEASE DESIGNA UTU463	TION AND SERIAL NUMBER:
SUNDR	Y NOTICES AND REPORTS	S ON	WELLS	6. IF INDIAN, ALLO	OTTEE OR TRIBE NAME:
	posals to drill new wells, significant reenter plugged wells, or to drill hori n for such proposals.			7.UNIT or CA AGR NATURAL BUTT	
1. TYPE OF WELL Gas Well				8. WELL NAME and NBU 922-30K4E	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 430475170800	000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		NE NUMBER: 720 929-6	9. FIELD and POO 5NATURAL BUTT	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NWSW Section:	HP, RANGE, MERIDIAN: 30 Township: 09.0S Range: 22.0E M	eridian:	S	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDIC	ATE N	ATURE OF NOTICE, REPOR	T, OR OTHER D	ATA
TYPE OF SUBMISSION		TYPE OF ACTION			
	ACIDIZE		ALTER CASING	CASING REI	PAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE W	ELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT V	VELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN		RACTURE TREAT	☐ NEW CONS	TRUCTION
	OPERATOR CHANGE	ı	PLUG AND ABANDON	PLUG BACK	
SPUD REPORT	✓ PRODUCTION START OR RESUME		RECLAMATION OF WELL SITE	RECOMPLE	TE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORAR	Y ABANDON
	TUBING REPAIR		/ENT OR FLARE	WATER DIS	POSAL
DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	☐ APD EXTEN	SION
10/29/2012			OTHER	OTHER:	
	WILDCAT WELL DETERMINATION		JIREK	,	
The subject wel	COMPLETED OPERATIONS. Clearly sho I was placed on productio I History will be submitted report.	n on	10/29/2012. The	Accepte Utah D Oil, Gas a	ed by the ivision of and Mining CORD ONLY ber 01, 2012
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUI</b> 720 929-6857	MBER	TITLE Regulatory Analyst II		
SIGNATURE N/A			<b>DATE</b> 11/1/2012		

Sundry Number: 31479 API Well Number: 43047517080000

	STATE OF UTAH			FORM 9
[	DEPARTMENT OF NATURAL RESOURG DIVISION OF OIL, GAS, AND MIR			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU463
SUNDR	RY NOTICES AND REPORTS	ON W	VELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	oposals to drill new wells, significantly reenter plugged wells, or to drill horizon n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 922-30K4BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			<b>9. API NUMBER:</b> 43047517080000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021		E NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2106 FSL 0817 FWL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 30 Township: 09.0S Range: 22.0E Mer	ridian: S	3	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NAT	TURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE	☐ ALT	TER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	СНА	ANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	☐ con	MMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRA	ACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLU	JG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	REC	CLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDE	ETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VEN	IT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF	SIT	A STATUS EXTENSION	APD EXTENSION
11/2/2012	WILDCAT WELL DETERMINATION	ОТН	4FR	OTHER:
40 DECODINE PROPOSED OR				<u> </u>
	completed operations. Clearly show eted, finishing well completion 10,771.			Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY November 02, 2012
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUME</b> 720 929-6857		<b>FITLE</b> Regulatory Analyst II	
SIGNATURE			DATE	
N/A			11/2/2012	

Form 3160-4 (August 2007)

Form 3160-4 (August 2007)	WELL (	COMPL	DEPAR BUREAU ETION C	UNIT TMEN' U OF L	ED ST T OF T AND I	TATES THE INT MANAC PLETI	TERIOI GEMEN ON RI	R IT <b>EPOR</b> T	REC NOV	EIVE 30 orl.gas og	D: 201 201 44 6	2 <sub>AHYI</sub> NG	5. Le	OM	B No. 10 res: July	ROVED 004-0137 31, 2010
1a. Type of	f Well	Oil Well	☑ Gas V	Well	☐ Dry	/ D	Other				,		6. If	Indian, Alle	ottee or	Tribe Name
b. Type of	f Completion	☑ Ne Other	744 44 611	☐ Wor	k Over		Deepen	☐ Plu	ig Back	☐ Diff	f. Re	svr.	7. Uı	nit or CA A	greeme	ent Name and No.
2. Name of	Operator							Y A FRA	ZIER				8. Le	ase Name a	nd We	
3. Address		173779	_	-Mail: III	nasey.	razier@	3a.	Phone N	Vo. (includ	e area co	de)			BU 922-30 PI Well No.		
A Location	DENVER, of Well (Rep			d in acc	ordance	with Fe		: 720-92					10. F	ield and Po	ol, or I	43-047-51708 Exploratory
At surfa	` •	•	L 817FWL						)			L	N	ATURAL I	BUTTE	
	rod interval r					975FWL							01	Area Sec	30 TS	9S R22E Mer SLB
	depth NES			_	3HL		HSN	١					12. C U	County or Pa INTAH	arish	13. State UT
14. Date Sp 05/04/2	oudded		15. Da	ate T.D. 1 /26/201				16. Dat	te Complet & A 🛛 29/2012	ed Ready t	o Pro	od.	17. E		DF, KE '1 GL	3, RT, GL)*
18. Total D	epth:	MD TVD	10771 1059		19. Pl	ug Back '	T.D.:	MD TVD	10 10	703 52 <b>56</b>		20. Dept	h Brio	ige Plug Se	t: I	MD IVD
21. Type E CBL/GI	lectric & Oth R/CCL/TEM	er Mechan P			nit copy	y of each	)			22. W W Di	as w as D recti	ell cored: ST run? onal Surv	ey?	<b>№</b> No   <b>№</b> No   <b>№</b> No	□ Yes	(Submit analysis) (Submit analysis) (Submit analysis)
23. Casing ar	nd Liner Reco	ord (Repor	t all strings				1.				<u>1</u>		1			
Hole Size	Size/G	rade	Wt. (#/ft.)	Top (MD	4	Bottom (MD)	1 -	Cemente Depth	-	of Sks. & of Cemer	- 1	Slurry V (BBL		Cement 7	Гор*	Amount Pulled
20.000	14.0	000 STL	36.7		0	4					28					
11.000 7.875	†	25 IJ-55 0 P-110	28.0 11.6		0	274 1075			+		375 335				0 2717	
1.013	4.50	0 F-110			Ŭ	1070										
					$\Box$	_					_					
24. Tubing	Record								ــــــــــــــــــــــــــــــــــــــ							
	Depth Set (M	ID) Pa	cker Depth	(MD)	Size	Der	oth Set (N	MD)	Packer De	pth (MD		Size	De	pth Set (MI	D) [	Packer Depth (MD)
2.375		0264				1 2	Darfor	ation Rec	-ord							
25. Produci	ormation	$\neg$	Тор		Botto				d Interval		Г	Size	l N	lo. Holes		Perf. Status
A)	MESAVE	RDE		7520		0569		01101440	7520 TC	10569		0.36	$\neg$		OPEN	<del></del>
В)											-		╀			
C)									_				╫			
D) 27. Acid, Fr	acture, Treat	ment, Cem	ent Squeeze	, Etc.												
	Depth Interva								Amount an			iterial				
	752	0 TO 105	69 PUMP 1	3,604 BE	BLS SL	CK H2O	AND 331	1,126 LBS	30/50 OT	TAWA S	AND					
			_													
		,														
	on - Interval	A Hours	Test	Oil	Gas	,	Water	loac	Gravity	Ga	S	T <sub>F</sub>	roducti	on Method		
Date First Produced 10/29/2012	Date 11/06/2012	Tested 24	Production	BBL 0.0	М		BBL 360.6	Corr	: API		avity	ĺ			/S FRC	DM WELL
Choke	Tbg. Press.	Csg.	24 Hr.	Oil	Gas	<u> </u>	Water BBL	Gas:		We	ell Sta	tus				
Size 20/64	Flwg. 1834 SI	2600.0	Rate	BBL 0	IMIC	2899	360				PG	€W				
	tion - Interva		Test	Oil	Io		Water	loa c	Gravity	Ga	•	- In	rodust:	on Method		<del></del>
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Ga: MC		Water BBL		:. API		s avity		.vauttl	OII IIIOUIOU		
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Ga: MC		Water BBL	Gas: Ratio		We	ell Sta	tus				

32. Additional remarks (include plugging procedure): The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX P-110 csg was run from Sol36 ft. LTC P-110 csg was run from Sol36 ft. LTC P-110 csg was run from Sol36 ft. to 10,750 ft. Attached is the chronological well history, perforation report & final survey.  33. Circle enclosed attachments: 1. Electrical/Mechanical Logs (1 full set req'd.) 2. Geologic Report 3. DST Report 4. Directiona 5. Sundry Notice for plugging and cement verification 6. Core Analysis 7. Other:	28h Prod	uction - Interv	791 C											
Clobe Press Cas Press Retailed BBL MCF BBL Retailed Weet Retailed BBL Retailed Retai	Date First	Test	Hours									Production Method		****
Size   Pols.   Pols.   Rate   DEL   MCF   BBL   Ratio   Rati	roduced	Date	Tested	Production	BBL	MCF	BBL	Corr. API		Gravity				
28c. Production - Interval D  Dee First — Teat Fleed Tead Tead Tead Tead Tead Tead Tead T		Flwg.								Well Statu	ıs			
Produced   Date   Tested   Production   BBL   MCP   BBL   Corr. APT   Clavity	28c. Prod		al D		!	<u> </u>	<b></b>				***			
29. Diaposition of Gas(Sold, used for fuel, vented, etc.) SOLD 30. Summary of Porous Zones (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.  Formation  Top  Bottom  Descriptions, Contents, etc.  Name  GREEN RIVER BIRDS NEEST MASATCH MESAVERDE  31. Formation (Log) Markers  Series of prossity and contents thereof: Cored intervals and all drill-stem tests, include plugging procedure): The first 240 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DOX P-110 seg was run from 5036 ft. to 10,750 ft. Attached is the chronological well history, perforation report & final survey.  33. Circle enclosed attachments:  1. Electrical/Mechanical Logs (1 full set req'd.)  5. Sundry Notice for plugging and cement verification  6. Core Analysis  7. Other:  34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instruction)												Production Method		
SoLD  30. Summary of Porous Zones (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.  Formation  Top  Bottom  Descriptions, Contents, etc.  Name  GREEN RIVER BIRD'S NIEST MAHOGANY WASATCH MESAVERDE  32. Additional remarks (include plugging procedure): The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DuX P-110 csg was run from 503 ft, LTC P-110 csg was run from 503 ft. to 10,750 ft. Attached Is the chronological well history, perforation report & final survey.  33. Circle enclosed attachments:  1. Electrical/Mechanical Logs (1 full set req'd.) 5. Sundry Notice for plugging and cement verification  6. Core Analysis 7 Other:  34. Thereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instruction)		Flwg.												
30. Summary of Porous Zones (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures  Formation  Top  Bottom  Descriptions, Contents, etc.  Name  GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE  32. Additional remarks (include plugging procedure): The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX P-110 csg was run from surface to 5036 ft, LTC P-110 csg was run from 503 ft. bit. of 10,750 ft. Attached is the chronological well history, perforation report & final survey.  33. Circle enclosed attachments:  1. Electrical/Mechanical Logs (1 full set req'd.) 5. Sundry Notice for plugging and earnet verification  6. Core Analysis 7 Other:  34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instruction)			Sold, used	for fuel, veni	ted, etc.)									
32. Additional remarks (include plugging procedure): The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DOX P-110 csg was run from surface to 5036 ft. LTC P-110 csg was run from 5036 ft. bit. DOX P-110 sg was run from 5036 ft. bit. bit. bit. The remainder of surface hole was drilled with an 11 in. bit. DOX P-110 csg was run from surface to 5036 ft. LTC P-110 csg was run from 5036 ft. bit. bit. bit. bit. bit. bit. bit. bi	30. Summ Show tests, i	nary of Porous all important including dept	zones of p	orosity and c	ontents there	eof: Cored e tool open	intervals and	d all drill-ste d shut-in pr	em essures	3	1. Fori	nation (Log) Mai	rkers	
32. Additional remarks (include plugging procedure): The first 210 ft. of the surface hole was drilled with a 12 ? in. bit. The remainder of surface hole was drilled with an 11 in. bit. DQX P-110 csg was run from Sol36 ft. LTC P-110 csg was run from Sol36 ft. LTC P-110 csg was run from Sol36 ft. to 10,750 ft. Attached is the chronological well history, perforation report & final survey.  33. Circle enclosed attachments: 1. Electrical/Mechanical Logs (1 full set req'd.) 2. Geologic Report 3. DST Report 4. Directiona 5. Sundry Notice for plugging and cement verification 6. Core Analysis 7. Other:		Formation		Тор	Bottom		Descripti	ions, Conter	ıts, etc.			Name		Top Meas, Depth
history, perforation report & final survey.  33. Circle enclosed attachments:  1. Electrical/Mechanical Logs (1 full set req'd.)  2. Geologic Report  3. DST Report  4. Directiona  5. Sundry Notice for plugging and cement verification  6. Core Analysis  7 Other:	The fi	irst 210 ft. of ce hole was o	the surfact drilled with	ce hole was h an 11 in. b	drilled with	-110 csa v	vas run fror	n surface t	to 5036		BIR MAI WA	D'S NEST HOGANY SATCH		1416 1811 2317 4859 7512
1. Electrical/Mechanical Logs (1 full set req'd.) 2. Geologic Report 3. DST Report 4. Directiona 5. Sundry Notice for plugging and cement verification 6. Core Analysis 7 Other:						n, Auach	au is the Ch	Torlologica	i well					
	1. Ele	ectrical/Mecha	nical Logs	•	- /		-	-			-	oort	4. Direction	onal Survey
Electronic Submission #161208 Verified by the BLM Well Information System.  For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal	34. I herel	by certify that	the forego		ronic Subm	ission #161	1208 Verifie	ed by the B	LM Well I	nformati	on Sys		ched instructi	ons):
Name (please print) LINDSEY A FRAZIER Title REGUALTORY ANALYST	Name	(please print)	LINDSE	Y A FRAZIE	R			T	Title REGU	JALTOR	Y ANA	ALYST		
Signature (Electronic Submission) Date 11/27/2012	Signat	ture	(Electron	nic Submiss	ion)			I	Date <u>11/27</u>	/2012				

Well: NBU 922-3	BOK4BS E	BLUE			_			Spud Date: 5/1					
Project: UTAH-U	JINTAH			Site: NBU	J 922-30L	. PAD			Rig Name No: SST 54/54, CAPSTAR 310/310				
Event: DRILLING	3			Start Date					End Date: 6/28/2012				
Active Datum: R Level)	KB @4,9	89,00usft (ab	ove Mean S	ea	UWI: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0								
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation				
5/13/2012	12:00	- 15:00	3.00	DRLSUR	01	С	Р		RIG DOWN, SKID. RIG UP. USE BED TRUCK TO LEVEL RIG. RIG JACK HYDRAULICS STILL WAITING ON PART				
	15:00	- 19:30	4,50	DRLSUR	01	В	:P		WELD ON ROTATING HEAD. REPLACE SWIVEL FILTERS AND LINES. INSTALL BLOWIE LINE. PUT BHA ON RACKS, AIR OUT PUMPS, PICK UP BHA				
	19:30	- 21:00	1.50	DRLSUR	02	D	P		DRILL 12.25" SURFACE HOLE F/ 49'- 210'  ROP= 161' @ 80 FPH  WOB= 14/22K  RPM= 55/105  SPP=800/500  GPM= 595  TRQ= 2600/1900  PU/SO/ROT = 49/46/47  HOLE IN GOOD SHAPE				
	21:00	- 23:00	2.00	DRLSUR	06	Α	P		PULL OUT OF HOLE, LAY DOWN BIT. PICK UP 11.00" BIT AND DIRECTIONAL TOOLS, TRIP IN HOLE				
	23:00	- 0:00	1.00	DRLSUR	02	D	P		DRILL 11.00" SURFACE HOLE F/ 210' T/270'  ROP= 60' @ 80 FPH  WOB= 14/22K  RPM= 55/105  SPP=920/650  GPM= 595  TRQ= 2600/1900  PU/SO/ROT = 50/43/45  HOLE IN GOOD SHAPE				
5/14/2012	0:00	- 0:00	24.00	DRLSUR	02	D	Р		DRILL 11.00" SURFACE HOLE F/270' T/2555' ROP= 60' @ 80 FPH WOB= 22/28K RPM= 55/105 SPP=1100/850 GPM= 595 TRQ= 3200-2000 PU/SO/ROT = 122/90/100 HOLE IN OK SHAPE, TIGHT IN PLACES				
5/15/2012		- 3:00	3.00	DRLSUR	02	D	Р		DRILL 11.00" SURFACE HOLE F/2555' T.2750'  ROP= 65' @ FPH  WOB= 22/28K  RPM= 55/105  SPP=1100/850  GPM= 595  TRQ= 3200-2000  PU/SO/ROT = 122/90/100  HOLE IN OK SHAPE, TIGHT IN PLACES				
	3:00	- 4:00	1.00	DRLSUR	05	С	P		CIRCULATE				
	4:00	- 8:00	4.00	DRLSUR	06	D	Р		PULL OUR OF HOLE. LAY DOWN BIT AND DIRECTIONAL TOOLS. BREAK DOWN BHA FOR INSPECTION				
	8:00	- 11:30	3.50	DRLSUR	12	С	Р		PJSM /// RIG UP AND RUN 61 JT'S, 8-5/8", 28#, J-55, LT&C CSG /// SHOE SET @ 2726' /// BAFFLE @				

11/20/2012 11:31:35AM

2680'

# **Operation Summary Report**

Well: NBU 922-					U.THORAS	N. 16, 4,000.02	Sold MA	Spud Date: 5/13/2012
Project: UTAH-U		JLUL		Site: NBU	922-30L	PAD		Rig Name No: SST 54/54, CAPSTAR 310/310
Event: DRILLING				Start Date	: 4/30/20	112		End Date: 6/28/2012
Active Datum: R		89.00usft (ab	ove Mean S				)/S/22/E/	30/0/0/26/PM/S/2106/W/0/817/0/0
Date'		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
	11:30	- 17:30	6.00	DRLSUR	12	Е	P	PRESSURE TEST LINES TO 1500 PSI. PUMP 10 BBLS OF WATER AHEAD. PUMP 20 BBLS OF 8.3# GEL WATER AHEAD. PUMP (250 SX) 170 BBLS OF 11.00 # 3.82 YD 23 GAL/SK PREMIUM CEMENT. PUMPED 200 (40.9BBLS) SX TAIL AT 15.8 #, 1.15 YD 5 GALS PER SACK. DROP PLUG ON FLY. DISPLACE W/ 167 BBLS OF H20. FINAL LIFT OF 350 PSI AT 4 BBL/MIN. BUMP PLUG W/550 PSI HELD FOR 5 MIN. FLOAT DID HOLD. PUMP (225 SX) 46 BBLS OF SAME TAIL CEMENT W/ 4% CALC. (2 TOPOUTS) DOWN 1" AND BACKSIDE. WAIT 1 1/2 HOURS IN BETWEEN EACH TOPOUT, SHUT DOWN AND CLEAN TRUCK. CEMENT TO SURFACE.
								START RIG DOWN. RIG RELEASED AT 1800
6/18/2012	1:00	- 2:00	1.00	DRLPRO	01	С	Р	SKID RIG
	2:00	- 3:00	1.00	DRLPRO	01	В	Р	RIG UP
	3:00	- 4:00	1.00	DRLPRO	14	Α	Р	NIPPLE UP BOPE & MI SWACO
	4:00	- 10:00 - 10:30	6.00	DRLPRO	15 14	В	₽ P	SET TEST PLUG & TEST BOPE / ANNULAR 250LOW 2500 PSI HIGH / PIPE & BLIND RAMS, KILL LINE VALVES, CHOKE LINE VALVES, CHOKE LINE, CHOKE MANIFOLD, FLOOR VALVES, IBOP - 250 LOW 5000 PSI HIGH / PULL TEST PLUG & TEST CASING TO 1500 PSI FOR 30 MINUTES / TEST BOTH CHOKES WITH PRESSURE - OK / TEST SWACO EQUIPMENT TO 1000 PSI. INSTALL WEAR BUSHING
	10:30	- 12:30	2.00	DRLPRO	09	Α	P	SLIP & CUT 192' DRILLING LINE / CHECK ALL BRAKE
	12·30	- 13:00	0.50	DRLPRO	23		P	PINS & KEEPERS / CHANGE OUT SAVER SUB / SET CROWN O MATIC SAFETY MEETING & INSPECT RIG
		- 17:30	4.50	DRLPRO	06	Α	P	PICK UP BHA / TEST MOTOR / SCRIBE MWD / TRIP IN
		,,,,,,	.,,,					HOLE / INSTALL NEW ROTATING RUBBER / TAG CEMENT @ 2616'
		- 19:00	1.50	DRLPRO	02	F	Р	DRILL SHOE TRACK / BAFFLE @ 2689' / SHOE @ 2735' / CLEAN OUT TO 2759'
	19:00	- 0:00	5.00	DRLPRO	02	D	Р	DRLG ROTATE/SLIDE/SURVEY 2759' TO 3240' / 481' @ 96.2 FPH WOB 20 TO 22K TD RPM 65 MM RPM 133 PUMPING 633 GPM / 180 SPM
								PSI ON/OFF 2215/1983 / DIFF 232 TORQUE HIGH/LOW 7780/6275 MUD WT IN 8.4 / OUT 8.4 / VIS 27 NOV RUNNING 2 CENTRIFUGES OFF CONE BOTTOM SWACO OFF LINE PU 125 / SO 100 / ROT 105 SLIDE 145' IN 95 MINUTES = 35.1% OF TIME & 30.1% OF FOOTAGE DRILLED ROTATE 336' IN 175 MINUTES = 64.9% OF TIME & 69.9% OF FOOTAGE DRILLED 7.09' SOUTH & 9.78' EAST OF THE LINE

11/20/2012 11:31:35AM

# **Operation Summary Report**

Well: NBU 922-3	30K4BS BLUE						Spud Date: 5/1:	3/2012				
Project: UTAH-L	JINTAH		Site: NBU	l 922-30L	. PAD			Rig Name No: SST 54/54, CAPSTAR 310/310				
Event: DRILLING	3		Start Date	e: 4/30/20	012			End Date: 6/28/2012				
Active Datum: R Level)	KB @4,989.00usft (a	bove Mean S	ea	UWI: N	UWI: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation				
6/19/2012	0:00 - 14:30	14.50	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 3240' TO 5009' / 1769' @ 122 FPH WOB 20 TO 24K TD RPM 65 TO 70 MM RPM 133 PUMPIING 633 GPM / 180 SPM PSI ON/OFF 1820/1420 / DIFF 400 TORQUE HIGH/LOW 9848/8362 MUD WT IN 8.4 / OUT 8.4 / VIS 27 NOV RUNNING CONE WITH 2 CENTIFUGES ON DEWATER SWACO OFF LINE / TEST RUN EQUIPMENT 4534' TO 4545' - 80 PSI BACK PRESSURE PU 155 / SO 120 / ROT 135 SLIDE 393' IN 272 MINUTES = 31.3% OF TIME & 22.2% OF FOOTAGE DRILLED ROTATE 1376' IN 598 MINUTES = 68.7% OF TIME & 77.8% OF FOOTAGE DRILLED 15.6' SOUTH & 23.3' WEST OF CENTER 6' FLARE 3400' TO 4475' STARTED LCM SWEEPS EACH CONNECTION @ 4650'				
	14:30 - 15:00	0.50	DRLPRO	07	Α	Р		RIG SERVICE / FUNCTION BOP				
	15:00 - 0:00	9.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 5009' TO 5866' / 857'  @ 95.2 FPH  WOB 20 TO 24K  TD RPM 65 TO 70  IMM RPM 103  PUMPING 492 GPM / 140 SPM  PSI ON/OFF 1850/1550 / DIFF 300  TORQUE HIGH/LOW 12,630/8650  MUD WT IN 8.4 / OUT 8.4 / VIS 27  NOV RUNNING CONE WITH 2 CENTRIFUGES ON  DEWATER  SWACO OFF LINE  PU 155 / SO 120 / ROT 135  SLIDE 138' IN 155 MINUTES = 28.7% OF TIME &  16.1% OF FOOTAGE DRILLED  ROTATE 719' IN 385 MINUTES = 71.3% OF TIME &  83.9% OF FOOTAGE DRILLED  12.3' SOUTH & 11.7' WEST OF CENTER  MIXING LCM SWEEPS EACH CONNECTION.				

				Intelli	i a usi	KIES R	EGION ary Report					
Well: NBU 922-30	K4BS BLUE	<u> 5. 108 VEN (S</u>	<u> </u>		<u>e njimbat 6</u>	717-51-6-515-5	Spud Date: 5/1	3/2012				
Project: UTAH-UI			Site: NBL	J 922-30L	PAD			Rig Name No: SST 54/54, CAPSTAR 310/310				
Event: DRILLING			Start Date	e: 4/30/20	End Date: 6/28/2012							
Active Datum: Rk	B @4,989.00usft (abo	ove Mean S	ea	UWI: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0								
Level)					( T		<b>P</b> 00	Section 1.				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation				
6/20/2012	0:00 - 0:30 0:30 - 1:00	0.50	DRLPRO	22	D	P		DRLG ROTATE 5860' TO 5922' / 56' @ 112 FPH WOB 20 TO 24K TD RPM 68 MM RPM 103 PUMPING 492 GPM / 140 SPM PSI ON/OFF 1890/1560 / DIFF 330 TORQUE HIGH/LOW 12,580/10,510 MUD WT IN 8.4 / OUT 8.4 / VIS 26 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER MI SWACO OFF LINE PU 160 / SO / 140 / ROT 150 NO SLIDE ROTATE 56' IN 30 MINUTES = 100% ROTATE @ 112 FPH 5.8' SOUTH & 11.2' WEST OF CENTER NO FLARE LOST CIRCULATION / BUILD VOLUMEMIXING LCM / LOST 80 BBL				
	1:00 - 8:30 8:30 - 11:30	7.50	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 5922' TO 6629' / 707' @ 94.3 FPH WOB 20 TO 24K TD RPM 55 MM RPM 96 PUMPING 457 GPM / 130 SPM PSI ON/OFF 1650/1435 / DIFF 215 TORQUE HIGH/LOW 10,260/8030 MUD WT IN 8.6 / OUT 8.6 / VIS 27 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER SWACO OFF LINE PU 200 / SO 140 / ROT 170 SLIDE 25' IN 30 MINUTES = 6.7% OF TIME & 3.5% OF FOOTAGE DRILLED ROTATE 682' IN 420 MINUTES = 93.3% OF TIME & 96.5 % OF FOOTAGE DRILLED LOST 20 BBL MUD @ 6057' - HOLE SEEPING 50 BBL/ HR STARTING @ 6435' - MIX LCM & LET GO OVER SHAKER TRIP OUT TO 2056' FOR GOST REAMER. TOOK 97 BBL GAIN IN PIT VOLUME - SHUT WELL IN - NO ANNULAR PRESSURE - NOV HAD DRAINED CONE INTO MUD TANK - OPEN WELL AND PICK UP GHOST				
	11:30 - 14:00	2.50	DRLPRO	06	.j	Р		REAMER TRIP IN HOLE - UNPLUG STRING - WASH 380' TO BOTTOM				

11:31:35AM 11/20/2012

							EGION ary Report						
Well: NBU 922-30	)K4BS BLUE			<u>un 10 380</u>	<u> </u>	Control States (ST)	Spud Date: 5/1	3/2012					
Project: UTAH-UI		-	Site: NBU	922-30L	. PAD			Rig Name No: SST 54/54, CAPSTAR 310/310					
Event: DRILLING			Start Date	late: 4/30/2012 End Date: 6/28/2012									
Active Datum: RK		ove Mean S		UWI: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0									
Level)					_		•						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation					
6/21/2012	0:00 - 14:30	10.00	DRLPRO	02	D	P		DRLG ROTATE/SLIDE/SURVEY 6629' TO 7240' / 611' @ 61.1 FPH WOB 22 TO 24K TD RPM 40 TO 55 MM RPM 96 PUMPING 457 GPM / 130 SPM PSI ON/OFF 1630/1400 / DIFF 230 TORQUE HIGH/LOW 14,050/10,855 MUD WT IN 8.6 / OUT 8.6 / VIS 27 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER SWACO ON LINE @ 7490' HOLDING 56 PSI BACK PRESSURE PU 215 / SO 150 / ROT 170 SLIDE 60' IN 85 MINUTES = 14.5% OF TIME & 9.8% OF FOOTAGE DRILLED ROTATE 551' IN 500 MINUTES = 85.5% OF TIME & 90.2% OF FOOTAGE DRILLED 9.7' NORTH & 3.4' WEST OF CENTER NO FLARE MIXING LCM SWEEPS EACH CONNECTION & LETTING GO OVER SHAKER. DRLG ROTATE/SLIDE/SURVEY 7240' TO 8352' / 1112' @ 76.7 FPH WOB 22 TO 24K TD RPM 50 TO 60 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 1850/1500 / DIFF 350 TORQUE HIGH/LOW 17,330/16,210 MUD WT IN 8.5 / OUT 8.5 / VIS 26 PU 230 / SO 145 / ROT 195 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER SWACO HOLDING 65 PSI BACK PRESSURE WHILE DRILLING SLIDE 105' IN 175 MINUTES = 20% OF TIME & 9.5% OF FOOTAGE DRILLED ROTATE 1007' IN 695 MINUTES = 80% OF TIME & 90.5% OF FOOTAGE DRILLED ROTATE 1007' IN 695 MINUTES = 80% OF TIME & 90.5% OF FOOTAGE DRILLED 22.3' NORTH & 8.1' EAST OF CENTER NO FLARE MIX LCM SWEEPS EACH CONNECTION & LET GO OVER SHAKER					
	14:30 - 15:00	0.50	DRLPRO	07	Α	P		RIG SERVICE / FUNCTION BOP					

11/20/2012 11:31:35AM

# **Operation Summary Report**

Well: NBU 922-	30K4BS I	BLUE						Spud Date: 5/13			
Project: UTAH-l	HATNIL			Site: NBU	922-30L	PAD			Rig Name No: SST 54/54, CAPSTAR 310/310		
Event: DRILLIN	G			Start Date	: 4/30/20	12			End Date: 6/28/2012		
Active Datum: F Level)	KB @4,9	989.00usft (ab	ove Mean Se	ea	UWI: NV	N/SW/0/	9/S/22/E/3	/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0			
Date	SI	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
	15:00	- 19:30 - 20:00 - 22:30	0.50 2.50	DRLPRO DRLPRO DRLPRO	02 02	D B D	P Z P	(woll)	DRLG ROTATE/SLIDE/SURVEY 8352' TO 8638' / 286' @ 63.5 FPH WOB 22 TO 24K TD RPM 60 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 1850/1500 / DIFF 350 TORQUE HIGH/LOW 17,230/16,110 MUD WT IN 8.6 / OUT 8.5 / VIS 26 PU 230 / SO 145 / ROTATE 195 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER SWACO HOLDING 100 PSI BACK PRESSURE WHILE DRILLING SLIDE 55' IN 85 MINUTES = 31.4% OF TIME & 19.2% OF FOOTAGE DRILLED ROTATE 231' IN 185 MINUTES = 68.6% OF TIME & 80.8% OF FOOTAGE DRILLED 19.7' NORTH & 5.7' EAST OF CENTER 8' FLARE STARTING @ 8450' INCREASING TO 10' MIXING LCM SWEEPS EACH CONNECTION & LET GO OVER SHAKER RIG REPAIR / WORK ON TOP DRIVE DRLG ROTATE/SURVEY 8638' TO 8830' / 192' @ 76.8 FPH WOB 24K TD RPM 58 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 1560/1515 / DIFF 45 TORQUE HIGH/LOW 15,680/15,050 MUD WT IN 8.6 / OUT 8.5 / VIS 27 PU 230 / SO 145 / ROT 195 NOV RUNNING CONE WITH 2 CENTRIFUGES ON DEWATER SWACO HOLDING 100 PSI - SPIKING TO 250 PSI BACK PRESSURE WHILE DRILLING NO SLIDE ROTATE 192' IN 150 MINUTES = 100% ROTATE @ 76.8 FPH 8.6' NORTH & 3.8' EAST OF CENTER 10 TO 25' FLARE HOLE SEEPING 50 BBL/HR STARTING @ 8798'		
	22:30	- 0:00	1,50	DRLPRO	05	В	P		MIX LCM & LET GO OVER SHAKER ROLL HOLE WITH 11.3# MUD		
6/22/2012	0:00	- 3:00	3.00	DRLPRO	05	В	P		ROLL HOLE WITH 11.3# MUD / CIRCULATE & RAISE MUD WT TO 11.5 TO KILL FLARE		
	3:00	- 12:00	9.00	DRLPRO	06	Α	Р		TRIP OUT OF HOLE / LAID DOWN GHOST REAMER & MUD MOTOR / FUNCTION BLIND RAMS		
	12:00	- 15:00	3.00	DRLPRO	06	Α	P		PICK UP MUD MOTOR / TEST MOTOR / SCRIBE MWD / TRIP IN HOLE / FILL PIPE @ 1526' BREAK CIRCULATION @ 4036' / STRING PLUGGED - WOULD NOT CIRCULATE		

11/20/2012 11:31:35AM

# **Operation Summary Report**

Spud Date: 5/13/2012 Well: NBU 922-30K4BS BLUE Rig Name No: SST 54/54, CAPSTAR 310/310 Project: UTAH-UINTAH Site: NBU 922-30L PAD End Date: 6/28/2012 Event: DRILLING Start Date: 4/30/2012

UWI: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0

ctive Datum: RKB @4,989.00usft (above Mean Sea evel)						UM: NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0					
Date	74337 33	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
	15:00	- 20:00	5.00	DRLPRO	22	0	Х		TRIP OUT OF HOLE TO UNPLUG BHA / FOUND HOLE FLOWING @ 1000' WHEN PULLING ROTATING RUBBER / STRIP OUT TO MWD		
	20:00	- 23:00	3.00	DRLPRO	22	0	X		UNPLUG BHA / PULL MWD / FLUSH TOOLS WITH WATER / CHANGE OUT EMITTER SUB - REPAIR & REPROGRAM MWD		
	23:00	- 0:00	1.00	DRLPRO	22	0	X		STRIP BHA IN HOLE		
6/23/2012	0:00	- 0:30	0.50	DRLPRO	06	Α	Х		STRIP BHA IN HOLE / INSTALL ROTATING RUBBER / BREAK CIRCULATION @ 1526' / 20' FLARE		
	0:30	- 6:00	5.50	DRLPRO	06	Α	P		TRIP IN HOLE / SWACO HOLDING 100 PSI BACK PRESSURE / PICK UP GHOST REAMER @ 4319' & BREAK CIRCULATION / 25' FLARE		
	6:00	- 11:30	5.50	DRLPRO	06	Α	Р		TRIP IN HOLE / WASH THROUGH BRIDGES @ 4262' & 4548' / BREAK CIRCULATION @ 5786', 7027', 8647' / WASH 180' TOWARDS BOTTOM.		
	11:30	- 14:30	3.00	DRLPRO	06	Α	Х		WORK TIGHT HOLE 8748' TO 8639'		
	14:30	- 17:00	2.50	DRLPRO	06	Α	X		WASH & REAM 8639' TO 8830' - STICKY		
	17:00	- 0:00	7.00	DRLPRO	02	D	P		DRLG ROTATE/SURVEY 8830' TO 9166' / 336' @ 48 FPH  WOB 18 TO 20K  TD RPM 45  MM RPM 88  PUMPING 422 GPM / 120 SPM  PSI ON/OFF 1960/1760 / DIFF 200  TORQUE HIGH/LOW 18,090/16,400  PU 235 / SO 150 / ROT 195  MUD WT IN 10.6 / OUT 10.6 / VIS 38  NOV RUNNING 1 CENTIFUGE FOR 2 CIRCULATIONS (BROUGHT MUD WT DOWN 11.1 TO 10.6)  SWACO HOLDING 110 PSI BACK PRESSURE WHILE  DRILLING/ 160SHUT IN ON CONN.  NO SLIDE  ROTATE 336' IN 420 MINUTES = 100% ROTATE @  48 FPH  12.8' NORTH & 1.1' EAST OF CENTER  8 TO 12' FLARE WHILE DRILLING		

11/20/2012 11:31:35AM

						KIES RI Summa	EGION Iry Report			
Well: NBU 922-3	0K4BS BLUE	<u> </u>	<u></u>		<u> </u>		Spud Date: 5/1	3/2012		
Project: UTAH-U	INTAH	×-	Site: NBU	922-30L	PAD			Rig Name No: SST 54/54, CAPSTAR 310/310		
Event; DRILLING	 }		Start Date	e: 4/30/20	112			End Date: 6/28/2012		
Active Datum: Rh	(B @4,989.00usft (ab	ove Mean S	ea	UWI: N	N/SW/0/9	9/S/22/E/3	0/0/0/26/PM/S/2	106/M/0/817/0/0		
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
6/24/2012	0:00 - 1:00	1.00	DRLPRO	02	D	P		DRLG ROTATE 9166' TO 9202' 36' @ 36 FPH WOB 22k TD RPM 45 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 1880/1680 / DIFF 200 TORQUE HIGH/LOW 17,680/15,470 PU 235 / SO 150 / ROT 195 MUD WT IN 10.6 / OUT 10.5 / VIS 38 NOV OFF LINE SWACO HOLDING 225 PSI BACK PRESSURE WHILE DRILLING NO SLIDE ROTATE 36' IN 60 MINUTES = 100% ROTATE @ 36 FPH 12.8' NORTH & 1.1' EAST OF CENTER 25' FLARE WHILE DRILLING HOLE SEEPING 30 BBL/HR MIXING LCM & LETTING IT GO OVER SHAKER.		
	1:00 - 2:00	1.00	DRLPRO	22	N	Х		15 BBL PIT GAIN /SWACO BACK PRESSURE INCREASE TO 790 PSI / LOST 125 BBL MUD TO HOLE / BUILD VOLUME MIXING LCM / 70' FLARE		
	2:00 - 15:00	13.00	DRLPRO	02	D	P		DRLG ROTATE/SURVEY 9202' TO 9699' / 497' @ 38.2 FPH WOB 18 TO 22K TD RPM 45 MM RPM 74 PUMPING 352 GPM / 100 SPM PSI ON/OFF 2310/1995 / DIFF 315 TORQUE HIGH/LOW 15,360/11,380 PU 235 / SO 150 / ROT 195 MUD WT IN 11.0 / OUT 10.8 / VIS 41 / LCM 10% NOV OFF LINE SWACO HOLDING 270 PSI BACK PRESSURE WHILE DRILLING / 270 SHUT IN ON CONNECTION NO SLIDE ROTATE 497' IN 780 MINUTES = 100% ROTATE @ 38.2 FPH 0.12' SOUTH & 5.2' EAST OF CENTER 10 TO 25' FLARE WHILE DRILLING		
	15:00 - 15:30	0.50	DRLPRO	07	Α	Р		RIG SERVICE / FUNCTION BOP		

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# Operation Summary Report

Well: NBU 922-	30K4BS BLUE					Sp	ud Date: 5/13/2012
Project: UTAH-	UINTAH		Site: NBU	922-301	. PAD		Rig Name No: SST 54/54, CAPSTAR 310/310
Event: DRILLIN	IG		Start Date	e: 4/30/20	12		End Date: 6/28/2012
Active Datum: I _evel)	RKB @4,989.00usft (al	ove Mean S	ea	UWI: N	N/SW/0/9	9/S/22/E/30/0/0	0/26/PM/S/2106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
6/25/2012	Start-End  15:30 - 15:30  0:00 - 13:30	0.00 13.50	DRLPRO	02	D D	P	DRLG ROTATE/SURVEY 9699' TO 9924' / 225' @ 26.4 FPH WOB 20 TO 24K TD RPM 45 TO 50 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 2480/2190 / DIFF 290 TORQUE HIGH/LOW 13,220/12,470 PU 275 / SO 175 / ROT 200 MUD WT IN 11.5 / OUT 11.2 / VIS 40 / LCM 10% NOV OFF LINE SWACO HOLDING 225 BACK PRESSURE WHILE DRILLING / 280 SHUT IN ON CONNECTIONS NO SLIDE ROTATE 225' IN 510 MINUTES = 100% ROTATE @ 26.4 FPH 6.8' SOUTH & 7.5' EAST OF CENTER INCREASED MUD WT TO 11.5 @ 9910' 15' CONNECTION FLARE DRLG ROTATE/SURVEY 9924' TO 10,272 / 348' @ 25.7 FPH WOB 20 TO 24K TD RPM 45 TO 55 MM RPM 88
	13:30 - 14:00	0.50	DRLPRO	07	A	P	PUMPING 422 GPM / 120 SPM PSI ON/OFF 2400/2170 / DIFF 230 TORQUE HIGH/LOW 14,370/12,200 PU 275 / SO 175 / ROT 205 MUD WT IN 11.5 / OUT 11.4 / VIS 40 / LCM 7% NOV OFF LINE SWACO HOLDING, LOW 150 / HIGH 390 PSI BACK PRESSURE WHILE DRILLING NO SLIDE ROTATE 348' IN 810 MINUTES = 100% ROTATE @ 25.7 FPH 22.5' SOUTH & 9.9' EAST OF CENTER OCCASIONAL 4' FLARE RIG SERVICE / FUNCTION BOP
	14:00 - 14:00	0.50 0.00	DRLPRO	02	D	P	DRLG ROTATE/SURVEY 10,272' TO 10,450' / 178' @
							17.8 FPH WOB 22 TO 24K TD RPM 55 TO 60 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 2480/2280 / DIFF 200 TORQUE HIGH/LOW 14,200/9400 PU 275 / SO 175 / ROT 210 MUD WT IN 11.3 / OUT 11.3 / VIS 43 / LCM 10% NOV OFF LINE SWACO HOLDING 157 LOW / 459 HIGH PSI BACK PRESSURE WHILE DRILLING NO SLIDE ROTATE 178' IN 600 MINUTES = 100% ROTATE @ 17.8 FPH. 25.3' SOUTH & 10.7' EAST OF CENTER

11/20/2012 11:31:35AM

Nell: NBU 922-3	30K4BS B	LUE						Spud Date: 5/	
Project: UTAH-U	JINTAH			Site: NBU	922-301	- PAD			Rig Name No: SST 54/54, CAPSTAR 310/310
Event: DRILLING	3		***	Start Date	e: 4/30/20	012			End Date: 6/28/2012
Active Datum: R	KB @4,98	39.00usft (al	oove Mean S	ea	UWI: N	W/SW/0/9	9/S/22/E/3	0/0/0/26/PM/S/2	106/W/0/817/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/26/2012	0:00	- 12:00 - 12:00 - 14:00 - 20:00	2.00 6.00	DRLPRO DRLPRO DRLPRO	02 05 06	D A E	P P P	(USII)	DRLG ROTATE/SURVEY 10,450' TO 10,771' / 321' @ 26.7 FPH WOB 22 TO 25K TD RPM 60 MM RPM 88 PUMPING 422 GPM / 120 SPM PSI ON/OFF 2790/2490 / DIFF 300 TORQUE HIGH/LOW 16,460/10480 PU 275 / SO 175 / ROT 210 MUD WT IN 12.0 / OUT 12.0 / VIS 41 / LCM 10% NOV OFF LINE SWACO HOLDING 250 PSI BACK PRESSURE WITH MUD WT @ 11.3 / OFF LINE WITH MUD WT @ 12.0 NO SLIDE ROTATE 321' IN 720 MINUTES = 100% ROTATE @ 26.7 FPH 44.98' SOUTH & 9.06' EAST OF CENTER 6' FLARE 10610' TO 10645' CIRCULATE & CONDITION HOLE WMPER TRIP TO 6900' / ROTATE & PUMP FIRST 14 STD DP OFF BOTTOM. LAID DOWN GHOST
									REAMER.
		- 21:30	1.50	DRLPRO	09	Α	Р		SLIP & CUT 138' DRLG LINE
		- 0:00	2.50	DRLPRO	06	E	Р		WIPER TRIP IN HOLE
6/27/2012	0:00	- 1:00	1.00	DRLPRO	06	E	Р		FINISH WIPER TRIP / WASH 95' TO BOTTOM / 20' OF FILL
	1:00	- 3:00	2.00	DRLPRO	05	A	P		CIRCULATE & CONDITION HOLE / 30' FLARE BOTTOMS UP
	3:00	- 10:00	7.00	DRLPRO	06	D	Р		TRIP OUT OF HOLE FOR CASING / LAY DOWN DIRECTIONAL TOOLS PULL WEAR BUSHING
		- 10:30	0.50	DRLPRO	06	D C	P P		
		- 21:30 - 10:30	0.00	DRLPRO	12		P		PJSM / RIG UP FRANKS WESTATES & RUN 10755' OF 4 1/2" CASING / 128 JOINTS OF 4 1/2", 11.6#, HCP110, LTC CASING & 113 JOINTS OF 4 1/2", 11.6#, HCP110, DQX CASING WITH HALLIBURTON FLOAT GUIDE SHOE & FLOAT COLLAR LOCATED 1 JOINT ABOVE SHOE / 20 CENTRALIZERS SPACED 10' ABOVE SHOE, 2ND & 3RD COLLARS, & EVERY 3RD COLLAR TO 8421' / TWO MARKER JOINTS @ 10,127' AND 7361' / ONE CROSS OVER JOINT @ 5035' / LANDED CASING WITH CAMERON CASING HANGER @ 10,749.81' / TOP OF FLOAT COLLAR @ 10,703' / STRING WT OF 103K. CIRCULATE CASING WITH RIG PUMP.
		- 10:30	0.00	DRLPRO	05	D -			
	21:30	- 23:00	1.50	DRLPRO	05	D	Р		CIRCULATE CASING WITH RIG PUMP / 20' FLARE BOTTOMS UP

11/20/2012 11:31:35AM

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# **Operation Summary Report**

Well: NBU 922-	30K4BS BLUE						Spud Date: 5/	13/2012
Project: UTAH-l	UINTAH		Site: NBU	J 922-30L	. PAD			Rig Name No: SST 54/54, CAPSTAR 310/310
vent: DRILLIN	G		Start Dat	e: 4/30/20	)12			End Date: 6/28/2012
Active Datum: F	Datum: RKB @4,989.00usft (above Me late Time Durat Start-End (hr) 23:00 - 0:00 1.0			- <del></del>		9/S/22/E/30	)/0/0/26/PM/S/2	106/W/0/817/0/0
.evel)	(3., (3.							
Date	1	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/28/2012	23:00 - 0:00	2.50	DRLPRO	12	E	P	(usily	PJSM / CEMENT 4 1/2" PRODUCTION CASING BY BJ SERVICES WITH 570 SX PREMIUM LITE II LEAD CEMENT WITH 6% GEL, 0.4% R-3, 0.25 #/SX CELLOFLAKE, 5 #/SX KOLSEAL, 0.4% FL-52, 0.2% SODIUM METASILICATE, & 5 #/BLEND STATIC FREE. TAILED IN WITH 1265 SX 50:50 POZ MIX WITH 2% GEL, 10 % SALT, 0.2% R-3, & 5 #/BLEND STATIC FREE. TESTED LINES TO 5000 PSI. DROPPED BOTTOM PLUG & PUMPED 5 BBL FRESH WATER & 25 BBL OF SPACER FLUSH AHEAD OF CEMENT. MIXED LEAD CEMENT @ 13.0 PPG WITH YIELD OF 1.77 CF/SX. MIXED TAIL CEMENT @ 14.3 PPG WITH YIELD OF 1.31 CF/SX. HOLE CIRCULATED GOOD THROUGH OUT JOB.DROPPED TOP PLUG & DISPLACED CEMENT WITH 166.4 BBL FRESH WATER WITH 0.1 GAL/BBL CLAYCARE AND 0.01GAL/BBL MAGNACIDE. NO CEMENT TO SURFACE. FINAL LIFT PRESSURE = 3078 PSI. BUMPED PLUG TO 3666 PSI. FLOATS HELD. PLUG DOWN @ 01:53 AM, 6/28/2012. FINISH CEMENTING 4 1/2" CASING / CEMENT 4 1/2" PRODUCTION CASING BY BJ SERVICES WITH 570 SX PREMIUM LITE II LEAD CEMENT WITH 6% GEL, 0.4% R-3, 0.25 #/SX CELLLOFLAKE, 5 #/SX KOLSEAL, 0.4% FL-52, 0.2% SODIUM METASILICATE, & 5 #/BLEND STATIC FREE. TAILED IN WITH 1265 SX 50:50 POZ MIX WITH 2% GEL, 10 % SALT, 0.2% R-3, & 5 #/BLEND STATIC FREE. TESTED LINES TO 5000 PSI. DROPPED BOTTOM PLUG & PUMPED 5 BBL FRESH WATER & 25 BBL OF SPACER FLUSH AHEAD OF CEMENT. MIXED LEAD CEMENT @ 13.0 PPG WITH YIELD OF 1.77 CF/SX. MIXED TAIL CEMENT @ 14.3 PPG WITH YIELD OF 1.31 CF/SX. HOLE CIRCULATED GOOD THROUGH OUT JOB.DROPPED TOP PLUG & DISPLACED CEMENT WITH 166.4 BBL FRESH WATER WITH 0.1 GAL/BBL CLAYCARE AND 0.01GAL/BBL MAGNACIDE. NO CEMENT TO SURFACE. FINAL LIFT PRESSURE = 3078 PSI. BUMPED PLUG TO 3666 PSI. FLOATS HELD. PLUG DOWN @ 01:53 AM, 6/28/2012.
	2:30 - 4:00	1.50	DRLPRO	12	С	Р		PULL LANDING JOINT / WASH OUT BOP AND PACK OFF CAMERON WELL HEAD.
	4:00 - 6:00	2.00	DRLPRO	14	Α	P		NIPPLE DOWN BOP & CLEAN MUD TANKS / RELEASE RIG @ 06:00, 6/28/2012

# 1 General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 922-30K4BS BLUE	Wellbore No.	ОН
Well Name	NBU 922-30K4BS	Wellbore Name	NBU 922-30K4BS
Report No.	1	Report Date	5/13/2012
Project	UTAH-UINTAH	Site	NBU 922-30L PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/25/2012	End Date	10/29/2012
Spud Date	5/13/2012	Active Datum	RKB @4,989.00usft (above Mean Sea Level)
UWI	NW/SW/0/9/S/22/E/30/0/0/26/PM/S/2106/W/0/817/0/0		

### 1.3 General

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

#### 1.4 Initlal Conditions

### 1.5 Summary

Fluid Type		Fluid Density	Gross interval	7,520.0 (usft)-10,569.0 (us	Start Date/Time	9/24/2012 12:00AM
Surface Press		Estimate Res Press	No. of intervals	63	End Date/Time	9/24/2012 12:00AM
TVD Fluid Top		Fluid Head	Total Shots	231	Net Perforation Interval	77.00 (usft)
Hydrostatic Press		Press Difference	Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL				Final Press Date	

# 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/24/2012 12:00AM	MESAVERDE/			7,520.0	7,525.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/24/2012 12:00AM	MESAVERDE/		3	7,555.0	7,557.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			7,622.0	7,623.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			7,647.0	7,648.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	*
	MESAVERDE/			7,661.0	7,663.0	3.00	1 1 1 A	0.360	EXP/	3.375	120.00			PRODUCTIO N	
*** *** * * * * * * * * * * * * * * * *	MESAVERDE/	-		7,691.0	7,692.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/	**************************************	Marie and the second	7,720.0	7,721.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/	:		7,741.0	7,742.0	3.00		0.360	EXP/	3,375	120.00		23.00	PRODUCTIO N	
*****	MESAVERDE/	:		7,828.0	7,830.0	3.00	en in Tri Ann and Philippeness in the second	0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/		···•	7,877.0	7,880.0	3.00	error terror to the state of th	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	. As assumed in conservation
	MESAVERDE/	- ·		7,924.0	7,925.0	3.00		0.360	EXP/	3.375	120.00	44	23.00	PRODUCTIO N	robo un communicación de la compania del compania del compania de la compania del la compania de la compania del la compania de la compania de la compania del la compania de la compania del la compania
9/24/2012 12:00AM	MESAVERDE/			7,935.0	7,936.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	:
9/24/2012 12:00AM	MESAVERDE/			8,048.0	8,049.0	3.00	the a till discussed of the a	0.360	EXP/	3.375	120.00	The state of the s		PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			8,086.0	8,088.0	3.00		0.360	EXP/	3,375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			8,100.0	8,101.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	:
	MESAVERDE/		** **********	8,155.0	8,156.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
1	MESAVERDE/	The second secon		8,166.0	8,167.0	3.00	ere commence control additional days and an ex-	0.360	EXP/	3.375	120.00	And the second s		PRODUCTIO N	See
	MESAVERDE/			8,178.0	8,179.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/	11111	-	8,233.0	8,234.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,271.0	8,272.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	MESAVERDE/			8,282.0	8,283.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			8,368.0	8,369.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	

### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ D Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc/Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/24/2012 12:00AM	MESAVERDE/		Jusity	8,425.0	8,426.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	<u> </u>
	MESAVERDE/		·	8,438.0	8,440.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	:
	MESAVERDE/	-L		8,644.0	8,645.0	3.00	2 20 AMERICAN ST. AV ALLES ST. ST. ST. ST. ST. ST. ST. ST. ST. ST	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	The second second and second
	MESAVERDE/			8,660.0	8,661.0	3.00	TACA LEPTON - APPLICATION	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/	· i	-	8,698.0	8,699.0	3.00	i i	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/		all and the second section of the second sec	8,722.0	8,723.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	-
	MESAVERDE/			8,732.0	8,733.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	THE THE STATE OF T
	MESAVERDE/			8,756.0	8,757.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/	:	·	8,788.0	8,789.0	3.00	:	0.360	EXP/	3.375	120.00		23,00	PRODUCTIO N	
	MESAVERDE/	HIIPHIII II I I I I I I I I I I I I I I		8,833.0	8,834.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/	HI Suggest I consent to photo to take	med \$100 initial absorbed for his f	8,879.0	8,880.0	3.00	;	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,890.0	8,891.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,947.0	8,948.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			8,967.0	8,968.0	3.00	1	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
and the second second	MESAVERDE/			9,006.0	9,007.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/	**************************************		9,029.0	9,030.0	3.00		0.360	EXP/	3.375	120.00	were, remaining the constraint of a second of the second o	23.00	PRODUCTIO N	
Collection to the fallow of committee in the	MESAVERDE/			9,061.0	9,062.0	3.00	;	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	:
	MESAVERDE/		:	9,084.0	9,085.0	3.00		0.360	EXP/	3.375	120.00	pitte-buggesplatente. Ithere	23.00	PRODUCTIO N	
	MESAVERDE/		:	9,122.0	9,123.0	3.00	and the state of t	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	MESAVERDE/			9,138.0	9,139.0	3.00	1	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/		:	9,161.0	9,162.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

### 2.1 Perforated Interval (Continued)

Date	Formation/	CCL@	CCL-T	MD Top	MD Base	Shot	Misfires/	Diamete	Carr Type /Stage No	Carr	Phasing	Charge Desc /Charge	Charge	Reason	Misrun
	Reservoir	(usft)	(usft)	(usft)	(usft)	Density (shot/ft)	Add. Shot	n (ni)		Size (in)	ෆ	Manufacturer	Weight (gram)		
9/24/2012 12:00AM	MESAVERDE/	1		9,182.0	9,183.0	3.00	<u> </u>	0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			9,195.0	9,196.0	3.00	A second	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/		i	9,251.0	9,252.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/	į		9,264.0	9,265.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/		:	9,271.0	9,273.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/	un Calanton Ir abbertuill (Pep 1 1 1 1 1 1	:	9,283.0	9,284.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			9,337.0	9,338.0	3.00		0.360	EXP/	3.375	120.00		: !	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/	1		9,392.0	9,393.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/		į	10,289.0	10,291.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,316.0	10,317.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,334.0	10,335.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,367.0	10,368.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	i
9/24/2012 12:00AM	MESAVERDE/	į		10,377.0	10,378.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	:
9/24/2012 12:00AM	MESAVERDE/			10,386.0	10,387.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,437.0	10,439.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,455.0	10,456.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,468.0	10,469.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,477.0	10,478.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/			10,490.0	10,491.0	3.00		0.360	EXP/	3.375	120.00	and the second s	23.00	PRODUCTIO N	
9/24/2012 12:00AM	MESAVERDE/		-	10,568.0	10,569.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	

### 3 Plots

Well: NBU 922-30	K4BS BLUE						Spud Date: 5/13/	/2012
Project: UTAH-UI	NTAH		Site: NB	J 922-30L	PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
vent: COMPLET	TON		Start Dat	e: 9/25/20	112			End Date: 10/29/2012
Active Datum: RK	B @4,989.00usft (al	bove Mean Se	ea	UWI: N\	N/SW/0/9	9/S/22/E/30	0/0/0/26/PM/S/210	06/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/13/2012	-							
9/25/2012	10:30 - 12:00	1.50	FRAC	33	С	Р		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 15
								PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 20
								PSI.
								1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 88 PSI.
								NO COMMUNICATION OR MIGRATION WITH
								SURFACE CSG
								BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
9/28/2012	7:00 - 11:00	4.00	FRAC	37		Р		PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF
	6:30 - 6:45	0.25	FRAC	48		ïΡ		DESIGN. POOH. SWIFW HSM, REVIEW FRAC DESIGN

11/20/2012 11:35:22AM 1

				Opera	tion S	umma	ry Report	
Well: NBU 922-	30K4BS BLUE						Spud Date: 5/1	3/2012
Project: UTAH-	UINTAH		Site: NBI	J 922-30L	PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPL	ETION		Start Dat	e: 9/25/20	12			End Date: 10/29/2012
Active Datum: F	RKB @4,989.00usft (a	bove Mean Se	ea	UWI: N\	N/SW/0/9	/S/22/E/3	0/0/0/26/PM/S/2	106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:45 - 17:30	10.75	FRAC	36	В	Р		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR.  ALL CBP'S ARE HALIBURTON 8K CBP'S.  REFER TO STIM PJR FOR FLIUD, SAND AND CHEMICL VOLUME PUM'D [IN 1ST TWO STGS PUMP'D 30/50 TLC SAND, IN LOWER MESAVERDE]
								FRAC STG #1] WHP=200#, BRK DN PERFS=4,093#,  @=4.6 BPM, INJ RT=52.2, INJ PSI=6,515#, INITIAL ISIP=3,258#, INITIAL FG=.75, FINAL ISIP=3,597#, FINAL FG=.78, AVERAGE RATE=50.2, AVERAGE PRESSURE=6,833#, MAX RATE=52.7, MAX PRESSURE=8,447#, NET PRESSURE INCREASE=339#, 21/21 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=10,417', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #2] WHP=2,740#, BRK DN PERFS=4,703#, @=5.1 BPM, INJ RT=50.3, INJ PSI=6,311#, INITIAL ISIP=3,362#, INITIAL FG=.76, FINAL ISIP=3,689#, FINAL FG=.80, AVERAGE RATE=49.7, AVERAGE PRESSURE=6,467#, MAX RATE=51, MAX PRESSURE=8,055#, NET PRESSURE INCREASE=327#, 21/21 100% CALC PERFS OPEN. X OVER TO WRE LINE
								PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,423', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #3] WHP=1,930#, BRK DN PERFS=4,228#, @=4.8 BPM, INJ RT=52.4, INJ PSI=6,291#, INITIAL ISIP=2,208#, INITIAL FG=.68, FINAL ISIP=2,782#, FINAL FG=.74, AVERAGE RATE=52.5, AVERAGE PRESSURE=5,691#, MAX RATE=53, MAX PRESSURE=6,490#, NET PRESSURE INCREASE=574#, 17/21 81% CALC PERFS OPEN. X OVER TO WIRE LINE
10/2/2012	6:45 - 7:00	0.25	FRAC	48		P		PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,226', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN. HSM,PLACEMENT

2

/ell: NBU 922-	30K4BS BLUE						Spud Date: 5/1	13/2012		
oject: UTAH-I	UINTAH		Site: NBL	J 922-30L	. PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3		
vent: COMPLI	ETION		Start Dat	e: 9/25/20	)12			End Date: 10/29/2012		
ctive Datum: F	RKB @4,989.00usft (a	bove Mean S	ea	UWI: N	W/SW/0/9	)/S/22/E/3(	0/0/0/26/PM/S/2	106/W/0/817/0/0		
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
	7:00 - 17:30	10.50	FRAC	36	В	P		FRAC STG #4] WHP=1,813#, BRK DN PERFS=3,065#, @=4.7 BPM, INJ RT=52.5, INJ PSI=5,444#, INITIAL ISIP=2,191#, INITIAL FG=.68, FINAL ISIP=2,752#, FINAL FG=.74, AVERAGE RATE=52.6, AVERAGE PRESSURE=5,137#, MAX RATE=53.2, MAX PRESSURE=5,914#, NET PRESSURE INCREASE=561#, 21/21 100% CALC PERFS OPEN. X OVER TO WRE LINE  PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,040', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW  FRAC STG #5] WHP=2,185#, BRK DN PERFS=4,640#, @=4.8 BPM, INJ RT=52.8, INJ PSI=4,876#, INITIAL ISIP=2,465#, INITIAL FG=.71, FINAL ISIP=2,535#, FINAL FG=.72, AVERAGE RATE=52.5, AVERAGE PRESSURE=5,042#, MAX RATE=53.2, MAX PRESSURE=6,226#, NET PRESSURE INCREASE=70#, 21/21 100% CALC PERFS OPEN. X OVER TO WRE LINE  PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,819', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN.		
10/3/2012	6:45 - 7:00	0.25	FRAC	48		Р		SWIFN. HSM, WORKING W/ WIRE LINE		

# **Operation Summary Report**

Well: NBU 922-30k	(4BS BLUE						Spud Date: 5/1	<del></del>
Project: UTAH-UIN	TAH		Site: NBI	J 922-30L	. PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	NC		Start Dat	e: 9/25/20	112			End Date: 10/29/2012
Active Datum: RKB _evel)	@4,989.00usft (ab	oove Mean S	ea	UWI: N\	N/SW/0/9	9/S/22/E/3	0/0/0/26/PM/S/2	106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 <i>-</i> 17:00	10.00	FRAC	36	В	Р		FRAC STG #6] WHP=1,941#, BRK DN PERFS=2,713#, @=4.8 BPM, INJ RT=50.6, INJ PSI=4,767#, INITIAL ISIP=2,074#, INITIAL FG=.68, FINAL ISIP=2,426#, FINAL FG=.72, AVERAGE RATE=50.6, AVERAGE PRESSURE=4,760#, MAX RATE=51.4, MAX PRESSURE=5,844#, NET PRESSURE INCREASE=352#, 21/21 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,470', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #7] WHP=1,273#, BRK DN PERFS=3,222#, @=4.7 BPM, INJ RT=50.2, INJ PSI=5,090#, INITIAL ISIP=1,784#, INITIAL FG=.65, FINAL ISIP=2,404#, FINAL FG=.73, AVERAGE RATE=50.6, AVERAGE PRESSURE=4,397#, MAX RATE=51, MAX PRESSURE=5,453#, NET PRESSURE INCREASE=620#, 18/21 86% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,209', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #8] WHP=1,634#, BRK DN PERFS=3,213#, @=5.1 BPM, INJ RT=50.4, INJ PSI=5,422#, INITIAL ISIP=2,062#, INITIAL FG=.69, FINAL ISIP=2,483#, FINAL FG=.74, AVERAGE RATE=50.6, AVERAGE PRESSURE=4,706#, MAX RATE=51, MAX PRESSURE=5,821#, NET PRESSURE INCREASE=421#, 18/21 86% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #9] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,966', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #9] WHP=764#, BRK DN PERFS=3,230#, @=4.7 BPM, INJ RT=50.7, INJ PSI=4,518#, INITIAL ISIP=1,325#, INITIAL FG=.61, FINAL ISIP=2,081#, FINAL FG=.70, AVERAGE RATE=50.7, AVERAGE PRESSURE=4,379#, MAX RATE=51.4, MAX PRESSURE=5,149#, NET PRESSURE INCREASE=756#, 19/21 91% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #10] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,772', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW.

Well: NBU 922-3	30K4BS BLUE				_		Spud Date: 5/1	3/2012
Project: UTAH-L	JINTAH		Site: NBI	J 922-30L	. PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	TION		Start Dat	e: 9/25/20	112			End Date: 10/29/2012
Active Datum: R Level)	KB @4,989.00usft (a	bove Mean Se	ea	UWI: N\	N/SW/0/9	/S/22/E/3	0/0/0/26/PM/S/2 <sup>-</sup>	106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
10/4/2012	6:30 - 6:45	0,25	FRAC	48		P		SWIFN. HSM, RIGGING DOWN / OVERHEAD LOADS
	6:45 - 17:00	10.25	FRAC	36	В	P		FRAC STG #10] WHP=1,311#, BRK DN PERFS=2,680#, @=5.1 BPM, INJ RT=50.8, INJ PSI=4,782#, INITIAL ISIP=1,437#, INITIAL FG=.63, FINAL ISIP=2,023#, FINAL FG=.70, AVERAGE RATE=50.8, AVERAGE PRESSURE=4,535#, MAX RATE=51.4, MAX PRESSURE=5,097#, NET PRESSURE INCREASE=589#, 18/21 86% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #11] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,587", PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #11] WHP=1,201#, BRK DN PERFS=2,070#, @=5.1 BPM, INJ RT=51, INJ PSI=4,316#, INITIAL ISIP=1,246#, INITIAL FG=.60, FINAL ISIP=2,128#, FINAL FG=.72, AVERAGE RATE=50.5, AVERAGE PRESSURE=4,565#, MAX RATE=51, MAX PRESSURE=5,704#, NET PRESSURE INCREASE=882#, 19/21 91% CALC PERFS OPEN. X OVER TO WRE LINE
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,470'
10/26/2012	13:00 - 16:00	3.00	DRLOUT	31	ì	P		TOTAL FLUID PUMP'D=13,604 BBLS TOTAL SAND PUMP'D=331,126# MIRU, PU 3 7/8" BIT & POBS W/ XN SN, RIH W/ 65 JTS 2 3/8" P-110 TBG OFF FLOAT TO 2,700',
10/29/2012	7:00 - 7:15	0.25	DRLOUT	48		Р		SDFWE HSM-JSA

11/20/2012 11:35:22AM 5

				U	S ROC	KIES R	EGION	
				Opera	ition S	lumma	ary Report	
Well: NBU 922-30	K4BS BLUE			-4-1-4-1-		· 1 - 1 - 4 - 4	Spud Date: 5/1	3/2012
Project: UTAH-UI	NTAH		Site: NBU	922-30L	. PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLET	TON		Start Date	: 9/25/20	)12			End Date: 10/29/2012
Active Datum: Rk Level)	B @4,989.00usft (a	bove Mean S	ea	UWI: N	W/SW/0/9	9/S/22/E/3	30/0/0/26/PM/S/21	106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 18:00	10.75	DRLOUT	44	С	Р		CONT TO PU TBG OFF FLOAT RIH TAG FILL @ 7,455', RU PWR SWVL, BRK CIRC, PRESS TEST BOP TO 3,000 PSI, LOST 0 PSI IN 15 MIN.
								C/O 15' SAND TAG PLUG #1 @ 7,470', DRL HAL 8K CBP IN 7 MIN, 400 PSI INC, FCP 50 PSI, RIH TAG FILL @ 7,567'.
								C/O 20' SAND TAG PLUG #2 @ 7,587', DRL HAL 8K CBP IN 8 MIN, 300 PSI INC, FCP 200 PSI, RIH TAG FILL @ 7,747'.
								C/O 25' SAND TAG PLUG #3 @ 7,772', DRL HAL 8K CBP IN 7 MIN, 400 PSI INC, FCP 200 PSI, RIH TAG FILL @ 7,936'.
								C/O 30' SAND TAG PLUG #4 @ 7,966', DRL HAL 8K CBP IN 6 MIN, 600 PSI INC, FCP 150 PSI, RIH TAG FILL @ 8,189'.
								C/O 20' SAND TAG PLUG #5 @ 8,209', DRL HAL 8K CBP IN 6 MIN, 500 PSI INC, FCP 200 PSI, RIH TAG FILL @ 8,445'.
								C/O 25' SAND TAG PLUG #6 @ 8,470', DRL HAL 8K CBP IN 7 MIN, 400 PSI INC, FCP 250 PSI, RIH TAG FILL @ 8,794'.
								C/O 25' SAND TAG PLUG #7 @ 8,819', DRL HAL 8K CBP IN 8 MIN, 400 PSI INC, FCP 350 PSI, RIH TAG FILL @ 9,025'.
								C/O 15' SAND TAG PLUG #8 @ 9,040', DRL HAL 8K CBP IN 8 MIN, 500 PSI INC, FCP 400 PSI, RIH TAG FILL @ 9,196'.
								C/O 30' SAND TAG PLUG #9 @ 9,226', DRL HAL 8K CBP IN 7 MIN, 300 PSI INC, FCP 400 PSI, RIH TAG FILL @ 9,403'.
								C/O 20' SAND TAG PLUG #10 @ 9,423', DRL HAL 8K CBP IN 5 MIN, 200 PSI INC, FCP 500 PSI, RIH TAG FILL @ 10,352'.
								C/O 65' SAND TAG PLUG #11 @ 10,417', DRL HAL 8K CBP IN 4 MIN, 500 PSI INC, FCP 600 PSI, RIH TAG FILL @ 10,495'.
								C/O 149' SAND TO 10,644' (75' BELOW BTM PERF), CIRC CLEAN, RD PWR SWWL, POOH LD 12 JTS TBG, LAND TBG W/ 323 JTS 2 3/8" P-110, EOT @ 10,263.97', RD FLOOR & TBG EQUIP, NDBOP, NUWH, DROP BALL POBS @ 1,600 PSI, PRESS TEST FLOWLINE BETWEEN WELLHEAD & HAL 9,000 TO 3,000 PSI, LET BIT FALL 20 MIN, TURN OVER TO

11/20/2012 11:35:22AM

						KIES RI Summa	GION ry Report	
Well: NBU 922-	30K4BS BLUE	ere de la Carte de				7 74.4	Spud Date: 5/1	3/2012
Project: UTAH-U			Site: NBU	922-30L	. PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLE	ETION		Start Date	e: 9/25/20	012			End Date: 10/29/2012
Active Datum: F	RKB @4,989.00usft (a	bove Mean Se	ea	UWI: N	W/SW/0/9	9/S/22/E/3	0/0/0/26/P <b>M/S</b> /21	106/W/0/817/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
		1, (-7)	Mr.	-				FBC, SDFN.
								KB-18'
								HANGER-, 83'
								323 JTS 2 3/8" P-110-10,242.94'
								POBS W/ XN SN-2.20'
								EOT @ 10,263.97'
								347 JTS DEL
								323 JTS USED
								24 JTS RET
								TWTR=13,915 BBLS
								TWR=3,120 BBLS
								TWLTR=10,795 BBLS
	18:00 - 18:00	0.00	DRLOUT	50				WELL TURNED TO SALES @ 1830 HR ON
								10/29/2012. 2300 MCFD, 1920 BWPD, FCP 2460#,
								FTP 2310#, 20/64" CK.
11/6/2012	7:00 -			50				WELL IP'D ON 11/6/12 - 2899 MCFD, 360 BWPD, 0
1 170/2012								BOPD, CP 2600#, FTP 1834#, LP 94#, 24 HRS, CK 20/64

11/20/2012 11:35:22AM Project: UTAH - UTM (feet), NAD27, Zone 12N Site: UINTAH\_NBU 922-30L PAD

Well: NBU 922-30K4BS Wellbore: NBU 922-30K4BS

Section: SHL:

+N/-S 0.00

+E/-W 0.00

Design: NBU 922-30K4BS (wp01)

Latitude: 40.005557 Longitude: -109.487054 GL: 4971.00 KB: 18' RBK + 4971' GL @ 4989.00ft

FORMATION TOP DETAILS

TVDPath 4658.00 5258.00 7243.00 9478.00 MDPath 4839.29 5439.30 7424.31 9659.33 9541.00 9990.00 9722.33 10171.33

Formation WASATCH top of cylinder MESAVERDE SEGO CASTLEGATE BLACKHAWK

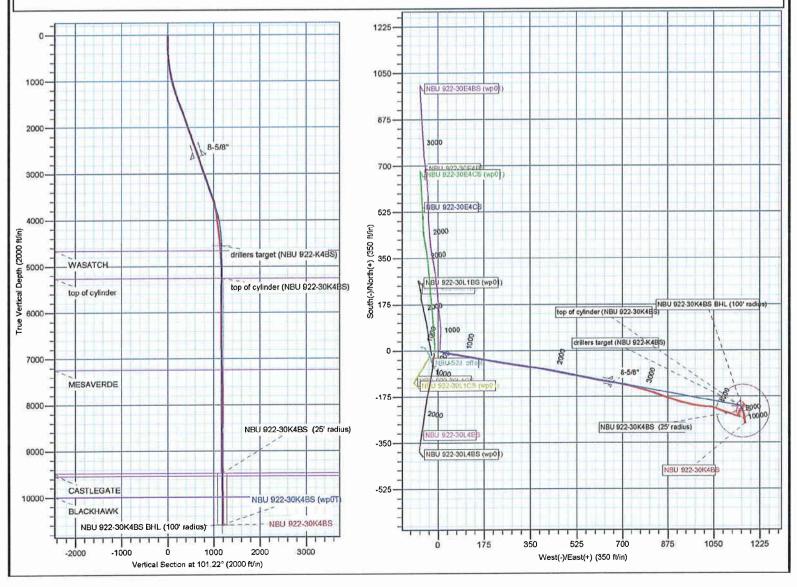
	WELL DETAILS: N	BU 922-30K4BS		
Northing 14531664.44	Ground Level: Easting 2064104.06	4971.00 Latittude 40.005557	Longitude -109.487054	Slot

CASING DE	TAILS	
MD 2735.79	Name 8-5/8"	Size 8-5/8
	MD	

TM Azimuths to True North Magnetic North: 10.95\* Magnetic Field Strength: 52241.0snT Dip Angle: 65.85° Date: 5/21/2012 Model: IGRF2010

			DESIGN TA	ARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
drillers target (NBU 922-K4BS)	4553.00	-210.16	1150.72	14531473.85	2065258.18	40.004980	-109.482946	
top of cylinder (NBU 922-30K4BS)	6258.00	-212.39	1151.84	14531471.64	2065259.33	40.004974	-109.482942	
NBU 922-30K4BS (25' radius)	9478.00	-230.16	1160.72	14531454.03	2065268.52	40.004925	-109.482910	
NBU 922-30K4BS BHL (100' radius)	10590.00	-230.16	1160.72	14531454.03	2065268.52	40.004925	-109.482910	

				SECTION DE	TAILS			
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
2675.00	19.17	99.11	2572.52	-117.46	638.75	0.00	0.00	649.40
2825.00	19.17	99.11	2714.21	-125.26	687.39	0.00	0.00	698.62
2909.09	19.17	100.42	2793.63	-129.94	714.60	0.51	90.81	726.22
3775.86	19.17	100.42	3612.35	-181.43	994.51	0.00	0.00	1010.80
4734.29	0.00	0.00	4553.00	-210.16	1150.72	2.00	180.00	1169.62
4805.44	0.21	153.43	4624.14	-210.28	1150.78	0.30	153.43	1169.70
10771.33	0.21	153.43	10590.00	-230.16	1160.72	0.00	0.00	1183.32



Survey Report

Database:

US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH\_NBU 922-30L PAD NBU 922-30K4BS Well: Wellbore: NBU 922-30K4BS NBU 922-30K4BS Design:

Local Co-ordinate Reference: TVD Reference: MD Reference:

18' RBK + 4971' GL @ 4989.00ft 18' RBK + 4971' GL @ 4989.00ft North Reference: **Survey Calculation Method:** Minimum Curvature

edmp

UTAH - UTM (feet), NAD27, Zone 12N Project

Map System: Geo Datum:

Position Uncertainty:

Map Zone:

Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

Well NBU 922-30K4BS

UINTAH\_NBU 922-30L PAD Site

Site Position: Lat/Long 0.00 ft

14,531,670.05 usft Northing: Easting: Slot Radius:

Latitude: Longitude: 2,064,112.37 usft 13-3/16 ' **Grid Convergence:** 

40.005572 -109.487024 0.97°

Well NBU 922-30K4BS 14,531,664.45 usft 40.005557 Latitude: Well Position +N/-S 0.00 ft Northing: Longitude: -109.487054 2,064,104.06 usft +E/-W 0.00 ft Easting: 4,971.00 ft **Ground Level:** 0.00 ft Wellhead Elevation: ft **Position Uncertainty** 

Wellbore NBU 922-30K4BS	n de la companya de La companya de la companya de l	skenderituiseks kollus saana sajavas pa ja saja saja 1980 – 1990 – 1990 – 1990 – 1990 – 1990 – 1990 martan martinis kollus saana sajavas pa ja saja saja saja saja saja saja s	an an ang an an an an an an an ang ang a	en serka kenkelletan i
Magnetics Model Name Sample Dat	e Declination (°)	Dip Angle (°)	Field Strength (nT)	
IGRF2010 5/21	/2012 10.9	5 6	5.85 5.	2,241

udit Notes:					
ersion:	1.0	Phase:	ACTUAL	Tie On Depth:	9
rtical Section	runginalan helioteka	Depth From (TVD)	+N/-S	+E/-W	Direction
ucai decuoii		(ft)	(ft)	(ft)	(°)
					한 목표를 가는 것이다. 이번에 가장 보고 있는 경기가 하는 것이 되었다. 그는 작품이

Survey Program From (ft)	Date 7/23/2012 To (ft) Survey (Wellbore)	Tool Name	Description	
238.00	2,675.00 Survey #1 (NBU 922-30K4BS)	MWD	MWD - STANDARD	\$100 m
2,818.00	10,771.00 Survey #2 (NBU 922-30K4BS)	MWD	MWD - STANDARD	

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00
238,00	0.47	80.98	238.00	0.15	0.93	0.87	0.21	0.21	0.00
329.00	2.46	105.96	328.96	-0.33	3.17	3.17	2.25	2.19	27.45
420.00	3.69	111.59	419.83	-1.95	7.77	8.01	1.39	1.35	6.19
515.00	5.36	106.05	514.53	-4.30	14.88	15.47	1.82	1.76	-5.83
610.00	7.21	100.60	608.96	-6.62	25.01	25.86	2.04	1.95	-5.74
705,00	8.97	101.22	703.01	-9.16	38.13	39.22	1.85	1.85	0.65
801.00	10.82	101.39	797.58	-12.40	54.31	55.70	1.93	1.93	0.18
895.00	12.36	99.72	889.66	-15.84	72.87	74.56	1.68	1.64	-1.78
989.00	13,54	99,72	981,26	-19,39	93.64	95.59	1.26	1.26	0.00

Survey Report

Company: Project: US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

Site: UINTAH\_NBU 922-30L PAD

 Well:
 NBU 922-30K4BS

 Wellbore:
 NBU 922-30K4BS

 Design:
 NBU 922-30K4BS

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Database:

Well NBU 922-30K4BS

18' RBK + 4971' GL @ 4989.00ft 18' RBK + 4971' GL @ 4989.00ft

True

Minimum Curvature

edmp

'ey'	nerical analyse is	o Artis Mantioniste					12:000.000	- Application	
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
<b>(ft)</b>	n	(°)	(ft)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
1,083.00	14.86	99.64	1,072.39	-23.27	116.37	118.60	1.40	1.40	-0.09
1,177.00	16.27	99.99	1,162.94	-23.27 -27.57	141.22	143.78	1.50	1.50	0.37
1,272.00	17.50	100.60	1,253.84	-32.51	168.37	171.34	1.31	1.29	0.64
1,365.00	18.99	99.72	1,342.17	-37.64	197.03	200.41	1.63	1.60	-0.95
1,460.00	20.05	99.29	1,431.70	-42.87	228,33	232.08	1.13	1.12	-0.45
1,-100.00	20.00	00.20	1,-101.110	12.07	220,00	202.00	,,,,		5. 1.5
1,556.00	21.54	99.46	1,521.45	-48.43	261.96	266.09	1.55	1.55	0.18
1,649.00	22.54	97.95	1,607.65	-53.70	296.45	300.87	1.24	1.08	-1.62
1,745.00	22.42	99.20	1,696.36	-59.17	332.75	337.46	0.51	-0.13	1.30
1,838.00	20.49	98.23	1,782.91	-64.34	366,37	371.36	2.11	-2.08	-1.04
1,932.00	18.29	100.60	1,871.57	-69.41	397.15	402.49	2.49	-2.34	2.52
2,026.00	19.35	101.13	1,960.55	-75.13	426.93	432.79	1.14	1.13	0.56
2,119.00	18.91	101.55	2,048.41	-81.12	456.82	463.25	0.50	-0.47	0.45
2,210.00	19.08	101.75	2,134.46	-87.10	485.82	492.86	0.20	0.19	0.22
2,302.00	19.79	100.52	2,221.21	-93.00	515.86	523.45	0.89	0.77	-1.34
2,396.00	19.58	102.03	2,309.72	-99.19	546.91	555.09	0.59	-0.22	1.61
2,488.00	20.40	102.01	2,396.18	-105.74	577.67	586.53	0.89	0.89	-0.02
2,581.00	19.08	101.13	2,483.71	-112.05	608,44	617.93	1.45	-1.42	-0.95
2,675.00	19.17	99.11	2,572.52	-117.46	638.75	648.68	0.71	0.10	-2.15
Tie On				Davida da					
2,818.00	19.44	99.98	2,707.48	-125.30	685.37	695.85	0.28	0.19	0.61
2,854.00	18.82	101.21	2,741.49	-127.47	696.97	707.64	2.05	-1.72	3.42
2,949.00	18.89	102.33	2,831.40	-133.73	727.02	738.33	0.39	0.07	1.18
3,045.00	18.44	103.48	2,922.35	-140.59	756.97	769.05	0.61	-0.47	1.20
3,140.00	18.50	106.48	3,012.46	-148.37	786.03	799.12	1.00	0.06	3.16
3,236.00	19.88	109.61	3,103.12	-158.17	816.02	830.55	1.79	1.44	3.26
3,331.00	19.25	109.48	3,192.64	-168.81	846.00	862.17	0.66	-0.66	-0.14
0.407.00	20.60	400.40	2 222 22	470.74	076.01	894.76	1.50	1.50	0.00
3,427.00	20.69	109.48	3,282.86	-179.74	876.91 908.46	927.82	1.26	1.50 -0.53	-3.28
3,522.00	20.19 18.94	106.36 103.61	3,371.88 3,462.34	-189.96 -198.29	939.50	927.62 959.94	1.62	-0.33 -1.30	-3.26 -2.86
3,618.00 3,712.00	17.69	103.61	3,462.3 <del>4</del> 3,551.58	-196.29	968.32	989.47	1.52	-1.33	-2.27
3,712.00	16.13	97.11	3,642.47	-204.72 -209.23	995.57	1,017.02	2.12	-1.64	-2.27 -4.60
•									
3,882.00	7.57	108.44	3,715.81	-212.09	1,010.62	1,032.33	11.77	-11.41	15.11
3,903.00	13.44	93.98	3,736.46	-212.69	1,014.37	1,036.12	30,43	27.95	-68.86
3,998.00	11.44	94.11	3,829.22	-214.14	1,034.78	1,056.32	2.11	-2.11	0.14
4,094.00	7.31	109.11	3,923.93	-216.82	1,050.06	1,071.80	4.96	-4.30	15.63
4,188.00	7.88	113.11	4,017.11	-221.31	1,061.64	1,084.10	0.83	0.61	4.26
4,284.00	6.88	114.36	4,112.31	-226.26	1,072.93	1,096.23	1.05	-1.04	1.30
4,379.00	5.81	109.36	4,206.73	-230.20	1,082.65	1,106.59	1.27	-1,13	-5,26
4,474.00	6.06	103.73	4,301.22	-232.99	1,092.06	1,116.39	0.67	0.26	-5.93
4,568.00	6.06	108.86	4,394.70	-235.77	1,101.57	1,126.29	0.58	0.00	5.46
4,664.00	6.00	106.86	4,490.16	-238.86	1,111.17	1,136.34	0.23	-0.06	-2.08
4,759.00	4.94	114,48	4,584.73	-242.00	1,119.64	1,145.31	1.35	-1.12	8.02
4,759.00	3.56	110.23	4,678.47	-242.00 -244.68	1,119.04	1,152.17	1.50	-1.12	-4.52

Survey Report

Company: Project: US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: UINTAH\_NBU 922-30L PAD NBU 922-30K4BS

Wellbore: Design: NBU 922-30K4BS NBU 922-30K4BS Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Database:

Well NBU 922-30K4BS

18' RBK + 4971' GL @ 4989.00ft 18' RBK + 4971' GL @ 4989.00ft

True

Minimum Curvature

edmp

(ft)	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
4,949.00	3.81	109.11	4,774.27	-246.76	1,131.88	1,158.30	0.27	0.26	-1.17
5,044.00	4.13	106.61	4,869.04	-248.77	1,138.14	1,164.86	0.38	0.34	-2,63
5,138.00	2.88	107.61	4,962.87	-250.45	1,143.63	1,170.59	1.33	-1.33	1.06
5,234.00	1.13	97.11	5,058.80	-251.30	1,146.87	1,173.94	1.86	-1.82	-10.94
5,329.00	0.50	357.86	5,153.80	-251.00	1,147.78	1,174.76	1.38	-0.66	-104.47
5,425.00	1.75	324.36	5,249.78	-249.39	1,146.91	1,173.54	1.42	1.30	-34.90
5,520.00	1.63	310.86	5,344.74	-247.33	1,145.05	1,171.25	0.44	-0.13	-14.21
5,616.00	1.06	332.72	5,440.71	-245.64	1,143.61	1,169.47	0.79	-0.59	22.77
5,711.00	0.25	304.61	5,535.70	-244.75	1,143.03	1,168.70	0.89	-0.85	-29.59
5,806.00	1.50	26.36	5,630.69	-243.51	1,143.42	1,168.79	1.56	1,32	86.05
5,902.00	1.25	354.11	5,726.67	<b>-</b> 241.35	1,143.87	1,168.73	0.83	-0.26	-33.59
5,997.00	1.00	354.11	5,821.65	-239.49	1,143.67	1,168.12	0,26	-0.26	0.00
6,092.00	0.69	14.36	5,916.64	-238.11	1,143.73	1,167.86	0.45	-0.33	21.32
6,187.00	0.69	13.23	6,011.63	-237.00	1,144.00	1,167.87	0.01	0.00	-1.19
6,283.00	0.44	48.61	6,107.63	-236.19	1,144.41	1,168.09	0.44	-0.26	36.85
6,378.00	1.50	9.48	6,202.61	-234.73	1,144.89	1,168.22	1.25	1.12	<b>-</b> 41.19
6,474.00	1.06	23.48	6,298.59	-232.67	1,145.45	1,168.29	0.56	-0.46	14.58
6,577.00	0.66	52.21	6,401.58	-231.44	1,146.30	1,168.83	0.56	-0.39	27.89
6,672.00	1.13	1.98	6,496.57	-230.16	1,146.77	1,169.00	0.92	0.49	-52.87
6,767.00	0.69	352.23	6,591.55	-228.66	1,146.72	1,168.61	0.49	-0.46	-10.26
6,863.00	0.25	32.48	6,687.55	-227.91	1,146.75	1,168.47	0.55	-0.46	41.93
6,958.00	1.50	54.32	6,782.54	-227.01	1,147.88	1,169.35	1.34	1.32	22.99
7,053.00	2.38	29.23	6,877.48	-224.56	1,149.85	1,170.71	1.27	0.93	-26.41
7,148.00	2.06	33.86	6,972.41	-221.43	1,151,76	1,171.86	0.39	-0.34	4.87
7,243.00	2.13	36.11	7,067.35	-218.58	1,153.76	1,173.15	0.11	0.07	2.37
7,339.00	1.63	48.36	7,163.30	-216.23	1,155.83	1,174.63	0.67	-0.52	12.76
7,434.00	1.19	24.86	7,258.27	-214.44	1,157.25	1,175.60	0.76	-0.46	-24.74
7,529.00	1.94	31.11	7,353.23	-212.17	1,158.50	1,176.29	0.81	0.79	6.58
7,625.00	1.75	59.23	7,449.19	-210.03	1,160.60	1,177.85	0.95	-0.20	29.29
7,720.00	1.75	37.48	7,544.14	-208.13	1,162.73	1,179.48	0.69	0.00	-22.89
7,815.00	1.44	52.73	7,639.11	-206.26	1,164.56	1,180.84	0.55	-0.33	16.05
7,911.00	0.81	245.36	7,735.10	-205.81	1,164.90	1,181.07	2.33	-0.66	-174.34
8,006.00	0.69	230.11	7,830.09	-206.46	1,163.85	1,180.20	0.24	-0.13	-16.05
8,101.00	0.56	210.23	7,925.08	-207.23	1,163.18	1,179.72	0.26	-0.14	-20.93
8,196.00	0.44	181.86	8,020.08	-207.99	1,162.93	1,179.66	0.29	-0.13	-29.86
8,292.00	0.69	148.98	8,116.08	-208.86	1,163,22	1,180.13	0.42	0.26	-34.25
8,387.00	0.63	211.23	8,211.07	-209.79	1,163.24	1,180.37	0.72	-0.06	65.53
8,483.00	0.88	239.23	8,307.06	-210.62	1,162.34	1,179.68	0.46	0.26	29.17
8,578.00	1.25	241.23	8,402.05	-211.49	1,160.80	1,178.38	0.39	0.39	2.11
8,674.00	1.25	237.48	8,498.02	-212.56	1,159.00	1,176.87	0.09	0.00	-3.91
8,778.00	0.89	215.08	8,602.01	-213.83	1,157.58	1,175.78	0.52	-0.35	-21.54
8,872.00	1.00	197.30	8,695.99	-215.21	1,156.92	1,175.45	0.33	0.12	-18.91

Survey Report

Company: Project

**US ROCKIES REGION PLANNING** UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: Wellbore: UINTAH\_NBU 922-30L PAD NBU 922-30K4BS NBU 922-30K4BS

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method: Database:

Well NBU 922-30K4BS

18' RBK + 4971' GL @ 4989.00ft 18' RBK + 4971' GL @ 4989.00ft

Minimum Curvature

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Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (*/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,063.00	1.13	188.86	8,886.97	-218.38	1,156.25	1,175.53	0.27	0.26	-1.84
9,159.00	1.25	175.61	8,982.95	-220.36	1,156.19	1,175.92	0.31	0.13	-13.80
9,254.00	1.38	166.36	9,077.92	-222.50	1,156.54	1,176.75	0.26	0.14	-9.74
9,353.00	1,50	161.23	9,176.89	-224.89	1,157.23	1,177.98	0.18	0.12	-5.18
9,448.00	1.63	157.23	9,271.85	-227.31	1,158.16	1,179.43	0.18	0.14	-4.21
9,543.00	1.69	153.11	9,366.81	-229.81	1,159.31	1,181.13	0.14	0.06	-4.34
9,639.00	1.56	162,73	9,462.78	-232.32	1,160.34	1,182.70	0.31	-0.14	10.02
9,734.00	1.94	156.73	9,557.73	-235.03	1,161.36	1,184.32	0.44	0.40	-6.32
9,830.00	1.94	155.91	9,653.68	-238.01	1,162.67	1,186.27	0.03	0.00	-0.85
9,925.00	2.19	168.11	9,748.61	<b>-</b> 241.25	1,163.70	1,188.02	0.53	0.26	12.84
10,021.00	2.31	172.73	9,844.54	-244.96	1,164.32	1,189.47	0.23	0.13	4.81
10,116.00	2.38	173.98	9,939.46	-248.82	1,164.77	1,190.80	0.09	0.07	1.32
10,212.00	2.31	171.36	10,035.38	-252.72	1,165.27	1,192.17	0.13	-0.07	-2.73
10,307.00	2.31	170.73	10,130.30	-256,50	1,165.86	1,193.62	0.03	0.00	-0.66
10,402.00	2.25	168.98	10,225.23	-260.22	1,166.53	1,195.12	0.10	-0.06	-1.84
10,497.00	2.44	169.88	10,320.15	-264.04	1,167.24	1,196.69	0.20	0.20	0.95
10,593.00	2.25	172.61	10,416.07	-267.92	1,167.84	1,198.16	0.23	-0.20	2.84
10,689.00	2.31	170.48	10,511.99	-271.70	1,168.40	1,199.58	0.11	0.06	-2.22
10,711.00	2.47	168.52	10,533.97	-272.60	1,168.57	1,199.95	0.82	0.73	-8.91
Last MWD S	urvey								
10,771.00	2.47	168.52	10,593.92	-275.14	1,169.09	1,201.03	0.00	0.00	0.00

CTCSWarehouse to 12 1773	ESTAN LA TERROPE DE LA CASTA TALVES	Set Suprise Products (Security of Artificial Set Ar	SEASONES SERVENCES PART OF THE CONTROL	When the property of the property of	
Design Anno	tatione		얼마 하하는 것으로 가장하다		
Design Aime	BERSTHER CONTRACTOR	esended and sandiford in the other	สัสด์สองอย่าน โดยสามาเกิดเกิดในโดย	apatriakuman nincer kunta Abibi	
	Measured	Vertical	Local Coor	dinates	
	Depth	Depth	+N/-S	+E/-W	
	(ft)	(ft)	<b>.</b>	(ft)	Comment
			(ft)	2010	Continent
effect statement with the			447.40	200 75	Ti- On
	2,675.00	2,572.52	<i>-</i> 117.46	638.75	Tie On
	40.744.00	40 502 07	-272.60	1,168,57	Last MWD Survey
	10,711.00	10,533.97	-2/2.00	1,100.57	Last WWD Survey
	10,771.00	10,593.92	-275.14	1,169.09	projection
	10,771.00	10,595.92	*275.14	1,109.09	projection

Checked By:	Approved By:	Date:
Checked by.	Approved by.	